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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 . PUBLISHED WEEKLY Single Copies, 20 Cents

VOLUME 89, No. 13 535 North Dearborn Street, CHICAGO, ILL. **SEPTEMBER 24, 1927**

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 89, No. 13 CHICAGO, ILLINOIS SEPTEMBER 24, 1927

PSYCHIC AND EMOTIONAL FACTORS IN GENERAL DIAGNOSIS AND TREATMENT *

ROLLIN T. WOODYATT, M.D.
CHICAGO

A few months ago I saw a patient in an attack of acute abdominal pain so strongly suggesting an obstruction of the large bowel that a surgeon was called. This was at night. The pain had begun in the morning. By the time the surgeon arrived, the pain had subsided somewhat. It was therefore decided to wait before proceeding with any surgical measures. In the morning, when the patient was somewhat better, a fluoroscopy of the large bowel showed the barium filling the rectum and sigmoid to a point 14 inches above the sphincter, but it was impossible to make the barium pass any higher. Meanwhile, as the mass filled the bowel below this point, the patient complained bitterly of pain, which he said was of the same character and in the same part of the abdomen as that which he had had the day before. Several films were made, and, after the bowel had been emptied, the pain quieted down and the patient was in good condition, so that it was decided to wait before operating until the following day. Prior to the time set for operation, the fluoroscopy was repeated. This time the patient did not complain of pain, and the filling defect was entirely gone. Obviously, the trouble had been due to spasm of the sigmoid.

Subsequent inquiry revealed the following facts: For some weeks, the patient had been under an emotional stress. He was a member of a firm of investment bankers, and other members of the firm were relatives of his. His income depended on this business. Certain policies of his firm were in violation of his concepts of right and wrong. His views were not shared by his partners, and he was placed in the position of repudiating his principles or of resigning his position in the firm. The latter meant the loss of friends, prestige and income. The abdominal pain had come on early in the morning following a day in which affairs in the office had come to a crisis.

This patient was not of the type that one ordinarily associates with such words as neurotic or psychopathic. He was physically well built, vigorous, and successful in business and socially. He was fond of outdoor sports, was not abnormally egocentric, and was not a malingerer. His past history showed that he had been remarkably free of physical ailments during his life. He did not imagine his pain. He actually had physical obstruction of the bowel due in this case to a muscular spasm superinduced by an emotional conflict which as yet he had not been able to solve.

This patient narrowly escaped a laparotomy. In the past few years I have seen a number of patients who have been operated on once or twice and some of them more times for conditions analogous to this, and some of these patients have been seen by some of the ablest internists and surgeons of the country. Some of them have been through some of our leading clinics. They give histories of having been examined with great care so far as purely physical conditions were concerned, but not of having been studied from the neuropsychiatric point of view.

Naunyn in his classic textbook on diabetes calls attention to the fact that the degree of diabetes exhibited by diabetic patients is prone to vary in response to nervous and emotional influences. I have had occasion to confirm this observation many times. If time permitted I could give the details of case after case in which the ups and downs of the patient's tolerance were paralleled by events in the psychic sphere. To cite a single instance: A certain business man about 65 years of age was in the hospital on a quantitative diet, and on this diet with a small dose of insulin he was passing urine that was as free of sugar as normal urines ever are. Suddenly, on a certain day, without any change in the regimen, he secreted 43 Gm. of sugar. On another day he secreted 76 Gm., and at this time he developed also a mild acidosis, showing that the increase of the glycosuria could not have been due merely to the ingestion of extra food. A careful check of the diet, of the collection of the urine, of its analysis, of the preparation of insulin used, of the dose given, failed to reveal any errors of technic; nor were we able to find any evidence of an active intercurrent physical disease, although the patient was carefully examined. It was found, however, that the patient had received news which had led him to fear (and with good cause) that the corporation in which he had been an officer for twenty odd years had taken steps to retire him, and it was his reaction to this situation that caused his tolerance to fall. It is interesting to be able to measure the power of emotion in terms so tangible as ounces of sugar. *The power of emotions to produce physical alterations of the body* does not seem unreal under these conditions.

In every well organized medical office or clinic, the taking of the history of a disease, the physical examination of the patient and the laboratory examination of the urine and blood are now carried out in practically every case. Diagnostic errors of the type that arise from failure to examine the urine or the blood are far less frequent than they used to be ten years ago. But is this true of examinations of the type necessary for

* Chairman's address, read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

the recognition of psychic causes of physical disease when they are present? Are such examinations carried out systematically along with the blood count, urinalysis and physical examination in the routine practice of clinical medicine by internists and surgeons?

Ten or fifteen years ago, the presence of thousands of patients in hospitals under the designation of shell shock—a term which at that time implied the existence of alterations of the central nervous system induced by the concussion of shells—bore witness to the fact that the profession of the world at large at that time was not awake to the number of physical disease pictures that could be caused by emotional factors. Since then enormous progress has been made along these lines. However, in peace-time practice, how many of the conditions which we now handle are studied or considered from the point of view that they may be due wholly or in part to psychic factors? How about certain cases of pylorospasm or cardiospasm? How about certain of the asthmatic cases, certain cases of protein sensitization? Given a case of angina pectoris, aneurysm, exophthalmic goiter, diabetes, to what extent do the ups and downs of the case depend on emotions?

There is perhaps a certain tendency among internists to consider that some cases are neuropsychiatric cases and that these should be transferred to the neuropsychitaric specialist, and that other cases are not of this type and that these do not require neuropsychiatric examination or treatment. But there is no sharp division. All men normal or sick have emotions and emotional conflicts, and all are affected physically by them.

104 South Michigan Avenue.

NATURE AND TREATMENT OF PSYCHIC AND EMOTIONAL FACTORS IN DISEASE*

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NEW YORK

In the practice of medicine and the management of the various complex situations which arise, all will agree that the psychologic aspects of each case should receive serious consideration. Not only are psychic factors important from the standpoint of etiology and diagnosis, but also they are often of the greatest value in determining treatment. Many disorders which affect human beings are purely psychogenic and respond only to psychologic treatment, while in many others emotional and psychic influences play an important rôle. Furthermore, it is the mind which bears the burden of every illness and directs the adjustment of the individual to pain, deformity and invalidism in all its various forms, so that any clinical method which ignores this master function of the body is gravely defective and may lead to serious error in interpretation and treatment.

ANATOMY OF NEURAL FUNCTION

The importance of mind in the sphere of medicine will be more readily recognized when the relations of the nervous system to the human organism are considered. The body performs its functions, as a whole, through the integrating and coordinating activities of the central nervous system. This vast array of neural pathways and nerve centers serves to unite the various organs and structures of the body in a collective functional group, under the control of the cerebral cortex, in which are lodged the guiding and purposive activities of mind.

The central nervous system through its afferent or sensory neurons brings the organism into relation with its own structure and with the outer world. The efferent or motor system renders possible the various activities and modes of expression that characterize the somatic and psychic functions of life.

Motility, sensibility, glandular activity, metabolism and the subtle chemical changes underlying secretion, as well as emotion, perception, memory and thought are all manifestations of the various physiologic and psychologic levels of the nervous system in its rôle of centralizing the psychobiologic activities of the organism.

The simplest reflex and the highest expression of thought and feeling are types of function representing different stages of phylogenetic development in the evolution of the neural mechanism.

The nervous system then is composed of a closely related series of ascending functional levels, in which the vegetative system is the oldest and the cerebral cortex is the most recent in its development. Between these two extremes of function lie the various reflex centers of the spinal cord, the brain stem, and the great ganglionic masses of the interbrain and forebrain. These various structures are united by numerous association systems, and each higher functional level exerts a controlling and inhibiting influence on the lower level. And as the psychologic level is the highest in functional importance, it has a supreme power of control and guidance over all other levels of the nervous system. This being true, it is not difficult to understand why mental states associated with anxiety, fear, depression, despair and prolonged conflict should cause disorders in other portions of the nervous system controlling visceral and somatic function.

The vegetative nervous system, which represents the lowest physiologic level and controls the vital visceral functions of the organism, is endowed with a greater degree of autonomy than is found at higher levels. But while such functions as digestion, respiration and cardiovascular activities are essentially autonomous, they are, nevertheless, under the control of nerve centers in the medulla oblongata and at still higher levels. The vital organs, therefore, are influenced not only by purely local and intrinsic factors but also by those of a more general nature, including various psychic and emotional states.

Pallor, blushing, palpitation of the heart, vasomotor disturbances and various gastro-intestinal reactions are as readily produced in sensitive persons by mental images tinged with anxiety and fear as by chemical and mechanical stimuli of a purely local character. And what is true of the physiologic activities of the great visceral systems is also true of the functional activities of the ductless glands. The close relationship of these glands to the sympathetic nervous system has long been recognized, and the experimental studies of Cannon have shown the great importance of these chemical agencies in the instinctive reactions of hunger, pain, rage and fear. Therefore, prolonged psychic and emotional conflicts in human beings are a potent source of disorder in this important sphere.

* Read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

PHYSIOLOGY OF NEURAL FUNCTION

When the physiology of neural function and the nature of neural energy are considered more in detail, we find ourselves in an obscure realm. The unit of neural energy is the nerve impulse, and the sum total of these activities constitutes the neural energy of the organism. This energy is constantly flowing over the nerve trunks and nerve centers to the various peripheral organs of expression. It is a part of the vital energy of the organism; the *élan vital* and the libido are expressions which are sometimes used to indicate the dynamic quality of this neural energy.

In this flow of nervous energy in the living organism two great principles are involved, namely, excitation and inhibition, for without inhibitory control there could not be an orderly regulation of neural activity. The term excitation implies a discharge of neural function, while inhibition indicates its diminution or suppression. These two functions of the nervous system are complementary, and their cooperative antagonism permits the harmonious regulation and coordination of all somatic and psychic function.

In all reflex activity, in the instinctive reactions and in the various emotional responses, excitation and inhibition play their dual rôle as well as in the higher manifestations of psychic life.

In the vegetative nervous system these two functions are subserved by separate excitory and inhibitory nerves. The sympathetic and vagal innervation of the heart are examples of these two types of neural function. Throughout the central nervous system, at all its levels, excitation and inhibition are recognized as sister functions, and nowhere is this more evident than in the psychic sphere. Every decision, every act of will is the result of conflict between these two basic principles in mental life, excitation and inhibition, desire and control. And in the struggle of the higher nature of man with his instinctive tendencies, desire and suppression are the psychic forces underlying the greatest conflicts of the individual.

This is the realm of repression, the region of complexes, where dissociations of psychic function, splitting of the personality and all those disorders of consciousness occur which play so important a rôle in the field of abnormal psychology. In this sphere, psychic inhibition may cause a repression into the subconscious of a conflicting group of ideas with strong emotional content, which then tend to function independently, with the production of psychic and somatic manifestations of abnormal character, serving no useful purpose in the life of the individual.

The harmonious relation of the instincts to the higher mental life of man is of prime importance in his adaptation to the requirements of social life, and while it is not in itself harmful to control the expression of an instinct in its primary form, it is harmful to repress it from consciousness, and this is a not infrequent factor in the production of neurotic disturbances. In the field of instinctive life it is the reproductive instinct which presents the greatest problem and is the cause of the severest conflicts.

Civilization was created by the conversion of the instinctive tendencies of man to higher purposes under the guardianship of the intellect. And accepted social usages afford ample outlets for the energy of the antisocial instincts if they are conscious and sublimated in terms of social custom and habits.

If, however, the conflict between the ideal (ego) and the instincts is of such a character that repression takes place, then the energy underlying the instinct is, so to speak, dammed back beyond the control of consciousness, where it may begin a career of unconscious self expression. The neuroses and various psychic disorders result from the repression into the unconscious of these instinctive desires, where they motivate many of the symptoms of psychogenic origin. It is for this reason that medical psychologists lay so much stress on liberating the repressed complexes from the subconscious, and establishing a greater harmony and freedom between the unconscious and conscious life of the individual.

SYMPTOMS OF PSYCHIC ORIGIN

Psychic energy that is repressed may find an outlet from the unconscious in a variety of ways. There are, however, two great pathways for the expression of repressed psychic energy: one is through psychic and the other is by somatic channels.

Among the abnormal psychic manifestations of repression are fixed ideas, obsessions, anxiety states, phobias, and various compulsive thoughts and acts. Here the repressed psychic energy is displaced or transferred into abnormal mental channels, which interfere with, rather than serve, the higher purposes of life. Even general convulsive seizures of emotional type may result from explosions of repressed psychic energy.

Of even greater interest to the internist is the conversion of the psychic energy into various somatic channels where they give rise to visceral symptoms, simulating very closely the clinical picture of organic disease. This is the realm of the gastropaths, the cardiopaths and the other well known visceral manifestations of the psychoneuroses.

There is another large group of cases which gives rise to functional paralyses of speech and of the extremities, and the sensory disturbances of the hysterical, in which the symptoms, although psychic in origin, are definitely related to the body function. Many will recall the frequency of this group of cases among the war neuroses, in which profound somatic disorders were produced by psychic conflicts and were relieved by psychic methods of treatment. What has been so obvious in the war neuroses is just as common in the battles of civil life, only the symptomatology and mode of onset are less dramatic.

In such cases, the sensory and motor functions which are represented in the psyche are dissociated by inhibition from the general body of consciousness, simulating paralyses of cerebral origin and characterized by many of the symptoms which are usually associated with organic disease. Tremor, tic convulsive, chorea, and clonic and tonic manifestations of the skeletal muscles may all have a purely psychic origin and are relieved by psychic methods of treatment. In the sensory sphere, blindness, deafness, loss of smell and taste, and anesthesias of the skin and mucous surface all occur as a result of such psychic dissociations and localized amnesia.

In the more severe types of cases, amnesia for a considerable portion of the past life is sometimes encountered as a result of psychic inhibition, and in rare cases splitting of the personality, multiple personality and cataleptic states are observed resulting from inhibition and dissociation of cortical functions on a larger scale. What is true in this respect of the general motor and sensory functions is also true of the various visceral systems. Respiratory, cardiovascular, gastro-intestinal and genito-urinary functions may be

excited and perverted by neural energy which is repressed at the psychic level and converted into somatic channels, where it gives rise to morbid visceral function.

DIAGNOSIS

The recognition of psychogenic and functional disorders requires the highest skill and insight of the physician. Such a diagnosis should always be one of exclusion. All the usual methods of clinical procedure should be used which are of value in excluding organic disease, including modern laboratory technic. An organic disorder being first excluded, the psychic and emotional aspects of the case should then be carefully considered. This should include an investigation of the hereditary background, the childhood, the sexual life, the family life, the marital relations, and the question of psychic stress and shock. In any psychogenic disorder, it is always possible with care and skill to elicit some source of strain and conflict which has contributed to the production of the symptoms. These are numerous and complex. Especial emphasis should be placed on emotional conflicts in the psychosexual sphere.

Organic disease having been excluded and an adequate etiologic factor in the emotional sphere having been revealed, a third test is the characteristic functional nature of the symptomatology, for most symptoms of psychogenic origin, while they may resemble organic disease, have usually certain peculiarities which stamp them as hysterical or psychogenic to the skilled observer.

A more difficult situation arises when an organic disease is associated with a psychoneurosis. Such combinations are by no means rare, and when they do occur give rise to considerable diagnostic difficulty. For example, multiple sclerosis, an organic disease of the central nervous system with a protean symptomatology, may be complicated by hysterical symptoms. Here, due attention to the coexistence of an organic and functional symptomatology will serve to clarify the situation.

TREATMENT

The successful treatment of psychic disorders must be directed to the functional level that is affected. While physical and mental rest, and measures for the improvement of the general physical condition are valuable adjuncts, the essential element of treatment is that directed toward the mind itself, and entails the utilization of some of the methods of psychotherapy.

Many of the functional and psychic complications encountered in general practice are not of a serious or deeply rooted nature, and yield readily to the intelligent and sympathetic approach of the physician.

An interest in the subjective difficulties of the patient, a sympathetic ear and the detached advice of a wise medical counselor will often clarify like magic the symptomatology arising from a complicated domestic or family situation.

The physician must bring, however, a keen and sympathetic insight into the more intricate problems of human nature, together with the ability to detect the special focus of irritation in the intricate mazes of a complex emotional situation. These are far too numerous to mention, for they are coextensive with the problems of human nature itself, but the physician who cultivates this field will find himself the gainer by a broader insight and deeper knowledge of human life. It is an art well worth cultivating, and the man with a large and enthusiastic following among the laity is either a conscious or an unconscious adept in the use of psychologic methods.

The processes of suggestion and persuasion play an important rôle in these successes, and many a drug and many a surgical procedure has received the credit when the time honored method of suggestion, as old as history itself, has really been the mainspring of the cure.

In certain types of cases great relief is experienced through releasing a complex and its emotional content by what is termed "mental catharsis." The principle involved is that of freeing a source of psychic irritation, a foreign body in the mind, so to speak, and the relief which is experienced after its discharge is somewhat comparable to the mental relief and reconstruction of the ego which takes place after confession, in the case of the sin-laden soul. For a repressed complex nearly always represents a situation, a desire or a wish which springs from the lower instinct levels of human nature and is in conflict with higher ego trends of the individual. Oftentimes this complex is deeply embedded in the unconscious; it is, so to speak, dissociated from the conscious workings of the mind, and this dissociation or inhibition in the psychic sphere can be released only by special methods of psychologic procedure. Oftentimes the repressed material has been gathering for many years, sometimes, in the more important conflicts, since early childhood, and a long and painstaking exploration and psychic reconstruction are called for to release the sufferer. These are methods which require specialized skill and long experience, and, like difficult technical procedures in other fields of medicine or surgery, should not be attempted without such training.

Also under the heading of treatment are hypnosis and the various forms of psychologic analysis. In hypnosis an attempt is made to explore the unconscious and by hypnotic suggestion to relieve the psychic dissociation that has given rise to symptoms. In psychoanalysis the effort is made to release repressed complexes by the method of free association.

Both methods have their value. Psychoanalysis will in some cases relieve symptoms that have proved resistant to other procedures.

In the last analysis, the object of all these methods is to restore the inner harmony of the individual, so that free expression in terms of individual and social ideals is possible. It is my firm conviction that if the physician in general practice were as alive to the importance of psychic life and health as he is to the ailments of the physical body there would be far less discontent and mental disorder than is seen today.

CONCLUSION

The whole question of nostrums and pseudomedical cults is largely one of psychic inadequacy and conflict, which is expressed in those rather quaint forms of conduct disorder, and while it is of value to attack these morbid social manifestations as such, the psychic origin should also be recognized and the problem attacked at its source. It is only in very recent years that the great schools of medicine have begun to take up seriously the important question of mind as a factor in medicine and its relation to bodily disorders, and the next decade will undoubtedly mark a progressive advancement in this important and much neglected field.

Amid the many details of morbid anatomy and physiology and the increasing complexities of laboratory and pharmacologic technic, the physician must never lose sight of the master function of the human body, the

mind. For many disorders which he is called on to treat are purely psychic, while many others result from psychic influences; but in the last analysis the burden of all disease of whatever nature is borne by the mind.

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PSYCHIC FACTORS IN THE COURSE OF CARDIAC DISEASE*

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Under the term of psychic disorders I wish to be understood to include not only the more obvious disorders of intelligence and reason but also the less clearly defined changes in personality that determine in life the relation an individual holds with his environment. Thus defined, the psychic disorders that are initiated not only by real heart disease but also scarcely less by imagined disease are various and important. In concrete cases we find at one extreme clearly defined examples of organic mental reaction due to cerebral congestion or anemia or to toxic states resulting from cardiovascular failure, and at the other a pathetic failure of adaptation due to personality or constitutional defects but not necessarily an inferiority complex.

In severe states of cardiac insufficiency, sleep is disturbed and broken by periods of semiconsciousness. During this period some patients are subject to dreams in the sleeping period and hallucinations in wakeful interludes. These dreams and hallucinations are with each patient often a repetition of the same pattern of thought. Night after night he does the same thing in his dream and talks with the same imaginary person when awake with a wearisome iteration. During the day the mind may be clear and unclouded, and there is then adequate comprehension of the impossible nature of the hallucination that was so vivid a few hours before. This mental disturbance in cardiac disease has been remarked, and various speculations have been advanced for its explanation. It has been suggested that these psychic manifestations may be regarded as analogous to referred pains in organic disease, only that a different group of nerves is involved. But this idea, while plausible, seems far fetched. In the type of heart disorder under consideration there are profound systemic effects that cannot be ignored; fever, for example, is invariably present, and whether due to infection, as some believe, or to abnormal circulation one cannot say; but it is certain that many persons react to fevers of any cause whatever, by exactly these mental states—dreams and hallucinations. What is it that determines why cardiac insufficiency evokes a psychic disorder in one individual and not in another I am unable to say further than that fever produces the same differing effects depending apparently on the constitutional make-up of the affected person. In any case the difference in the mental state night and day is due to variations in the level of conscious awareness. During the day many stimuli are received and mental awareness is higher than during the night. When there are fewer stimuli, awareness is at a low ebb, and the grasp on surroundings is less clear.

When the myocardial disorder that causes the cardiac insufficiency is a result of arteriosclerosis and the sclerosis is rather generalized, a quite different psychic disturbance may develop. This disturbance may take the form of transient periods of delirium, often nocturnal, but without regularity of appearance; again there may be definitely formulated delusions, usually persecutive in nature and directed toward an individual, a system of treatment, or toward the hospital in general. There may be maniacal outbreaks. In older persons this state may continue irregularly for weeks and terminate in a condition of dementia.

These pronounced psychoses which I have briefly outlined are, for the most part, indications that life is nearly done. They are of interest to the psychiatrist but their significance is ominous.

The more subtle changes that develop in personality as a result of some physical restriction are most easily noticeable in childhood. But even here one must be careful to discriminate. The innate character of the individual affected is quite as important as the force that compels readjustment to a changed environment. There are imperturbable spirits who make only the minimum concession to physical defect, quietly readjust their plan of life and uninterruptedly follow their old pursuits. Others, less robust in character, tend to capitalize their physical condition by playing on human sympathy. Adults and children alike show these differences; in children it is only a little more noticeable because they are less practiced in the social arts.

That children with heart disease may fall behind an age group in school is possibly quite as much due to the interruptions occasioned by periods of hospitalization as to lowering of energy, though the latter may be a cause. Be the basic reason what it may, it has been remarked that children affected with heart disease show a certain diffidence and lack of initiative in school, and are prone to attribute any shortcomings to their heart. Such an attitude is in no wise surprising, nor does it necessarily indicate any physiologic change in the child. The majority of normal children will advance any excuse, plausible or otherwise, which is likely to help them to evade an unpleasant chore or win for them exceptional privileges. Any normal boy is an adept in these shifty arts. But from children who are not in sound health the summary rebuke of the outraged parent or tutor is apt to be withheld, and as a consequence the child grows in the habit of evasion and self indulgence. This warping of personality is not peculiar to heart disease, though it is especially well defined in this group. Disease is not necessary for it—only the notion of delicacy of constitution. The general pattern of character apt to result has been described as the "only child complex"; its more notable attributes are dependence and selfishness.

In behavior, between children and adults there is very little difference. Man uses reason as an excuse for responding to feelings; children, more frank, dispense with reason. And among men and women who have heart disease the same types of reaction are noticeable as among children. There are those more rugged characters who make minimum concessions and go on, fretted only when a period in the hospital or at home threatens the economic status of the family. And there are others who find in their physical handicap a handy excuse for abandoning any competitive endeavor. Among agencies whose function it is to secure employment for those unable to enter into full economic competition, the idea prevails that persons having heart disease and tuberculosis make the greatest exactions of those disposed to help them. There is

* Read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

often a restlessness and discontent with any job, and a readiness to take time off on the slightest pretext which is not so apparent in other classes of patients. Possibly long periods in the hospital, to which patients with cardiac defects are perforce subjected, has a great deal to do with this breakdown of morale, but it has been suggested to me by those who seek employment for these patients that an oversympathetic and protecting attitude of the social worker in the hospital may be an even greater influence.

But this change in behavior under stress is not the result of some subtle change in character or personality; rather it is an uncovering of the essential nature of the individual; what was concealed before in more fortunate conditions is now clearly apparent. This is simply human nature. The transformation of a personality in adversity may be a painful revelation to friends. It is then only that strongly balanced character is revealed.

As there are some whose characters are revealed by an infirmity, so there are others whose personality is disclosed by an idea—the idea of being diseased. At bottom this is an attempt to rationalize a defective adjustment to environment.

Of the various ideas of disease none are so clear cut in the mind of the public as the notions of heart disease. One need only recall conversations overheard at the dinner table or at any social gathering, or the laboriously worded clinical history supplied by a fearful patient striving to give a hint and yet hoping against hope that the physician will not understand. What is the conception in the back of their anxious minds? The endeavor to discover what a patient is thinking is sometimes more interesting than what he is saying. They are not necessarily related. To the lay mind, pain in the left side of the chest, palpitation, or a sensation of any sort in the general vague region of the heart means heart disease, and heart disease terminates in sudden death. No layman that I have ever questioned had noted the relation between emotional stress and heart action; even medical students fail to appreciate it. Yet this relation is so familiar to physicians that they forget its clinical implications. In order to understand the mode of production of the idea of heart disease in a person's mind, we must first have that person's idea of symptomatology. In general, this is primitive, even among the educated; a sensation in the heart region and palpitation about covers it. Remembering that one needs only to keep the idea of heart disease fresh in the mind, which is only too well done by the dramatic instinct of the daily press, it is quite natural that any one subjected to a strong enough emotional shock to induce palpitation or the sense of oppression which follows fear may suddenly awaken to his perilous state from a dire malady.

Exactly these things happen: emotional shock, misinterpretation of a sensation, and the faulty idea of reference. But this is by no means the light in which the patient presents himself to his physician. Let me illustrate by a living example:

A rather stodgy woman in middle life came for relief from "heart disease." She stated that when she walked even half a block her heart jumped and caused distress. So long as she remained at home she did not feel discomfort. Sometimes she woke at night and felt the same sensations. Pain, a sense of dyspnea or other symptoms of heart disease were not present. The patient told of her symptoms with the resigned air of one who already knows the worst. A careful examination did not disclose any trace of evidence of cardiac abnormality or, indeed, of any organic disease. Then, because it began to be suspected that the basic trouble was emotional and functional, rather than organic, various tests and laboratory procedures were carried out, not because they were indicated certainly, but to secure evidence that would convince a prejudiced patient. This patient did not have heart disease but she was distressed by a sensation which she had interpreted as a symptom of heart disease. It took both time and trouble to find the cause of this sensation, and this is what was finally disclosed: Up to a certain date the woman had never had any sensation in her heart; on that date she went shopping and saw her husband and a woman to whom he acted devoted. They were walking arm in arm and otherwise deporting themselves in such a way as to arouse jealousy and suspicion in the wife. Terribly disturbed, the wife at once returned home and kept to the house for several days. Then she began to feel afraid to go on the street lest she meet her husband with her rival. Finally, after days of this wretchedness, at the solicitation of a friend the poor woman did venture on the street, probably in a state of abject terror, but she had not gone half a block before she ran back to the house. Safely in the house she then noted that her heart was thumping hard and that she had a sense of oppression in her chest and a choking sensation. This impressed her as remarkable, and in a few days another attempt to go outdoors produced the same symptoms. Then she concluded that the shock had injured her heart. She had heart disease and would soon die; she might possibly die on the street if she ventured out. Briefly stated, these are the essential facts in the etiology of this patient's heart disorder. The factors are both physiologic and psychologic, but the relations are so evident that analysis is not required.

If a person has the innate personality which constitutes a suitable soil, it then becomes a matter of chance whether or not some idea of disease becomes implanted. If one asks whether this impressionable type of personality which would be subject to these disorders is a common type let him but consider the hosts who flock under the protecting wing of every cult that offers a shelter, and let us remember that these hosts represent largely physicians' failures.

There are, then, in severe cardiac disease psychic disorders representing toxic or exhaustion psychoses; changes in personality which are only psychic readjustments to newly imposed external conditions, and disclosures of personality which are scarcely more than an uncovering of what has hitherto been concealed and dormant. Lastly, there are emotional states producing physiologic effects which are often interpreted as somatic abnormalities.

121 East Sixty-Second Street.

Results of Poor Posture.—If the body is dropped or relaxed, so that the shoulders drag forward and downward, the whole body suffers, the weight is thrown imperfectly upon the feet, so that the arch must be strained; the knees are slightly sprung, which shows by the creptitating joints; the pelvis is changed in its inclination, with strain to the sacro-iliac joints and low back. In this position the chest is necessarily lowered, the lungs are much less fully expanded than normal, the diaphragm is depressed, the abdominal wall is relaxed so that with the lessening support of the abdominal wall, together with the lowering of the diaphragm, the abdominal organs are necessarily forced downward and forward. . . . The stomach and liver cannot work rightly if the ribs are contracted and narrowed so that there is practically no subdiaphragmatic space; the pelvic organs cannot work rightly and must be congested if the loose abdominal organs are crowded into the lower abdomen and pelvis, so that the nutrition must suffer, and the physiology in general must be abnormal if the anatomic conditions under which the physiological function is expected to be performed are so markedly abnormal. If physical education does not lead to functional development, it fails to build a foundation for future health.—Thomas and Goldthwait: Body Mechanics and Health.

PSYCHIC AND EMOTIONAL FACTORS IN THEIR RELATION TO DISORDERS OF THE DIGESTIVE TRACT*

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Since a symposium is intended to develop individual opinions taken from diverse points of view, I shall express my own concept of the causes underlying the digestive disorders of a certain group of mildly psychoneurotic patients. This group embraces those emotionally unbalanced people who, because of digestive distress, real or imaginary, commonly consult the internist; it does not include those who, because of an obvious psychoneurosis, properly seek the advice of a psychiatrist.

A relatively large number of the patients who find their way to the consultant are so-called neurasthenics; otherwise, most of them would in all likelihood have been relieved by the first physician whose advice they sought. Of 5,700 patients seen in my office during the period of our present method of work, the records of the last thousand have been reviewed with the object of determining the etiologic rôle played by emotional and psychic influences. Of these patients, 28.5 per cent complained chiefly of digestive disorders. Of this group, organic disease was the probable cause of disability in 67.4 per cent, while 32.6 per cent did not have any recognizable organic disease and, because of the nature of their complaints as well as the exhibition of neurotic stigmas, were classed as psychoneurotics. We shall not miss the mark far when we assume that one third of the patients who come to the consultant because of digestive complaints are of the psychoneurotic type.

The study of these patients has included not only the usual diagnostic procedures but also a sympathetic endeavor to understand their discomforts, their reaction to their surroundings, their emotions, and the motives which actuate them, as well as the character of their antecedents.

After mature study of this character I am forced to conclude that these patients, as a rule, are not the victims merely of fortuitous circumstance. They are—the vast majority of them—born, not made, neurasthenics. Social maladjustment, unfortunate environment, business reverses, domestic trials, grief or repressed sexual emotion are not primarily responsible. Because of a constitutional lack of balance they are predestined to trouble, and the situations in which they chance to find themselves, according to my observation, play a distinctly subordinate rôle in the production of these troubles.

Sexual impulses, whether perverted, repressed or permitted free expression, play small part in initiating the troubles of the psychoneurotic patients whom I see. True, such a patient may exhibit sexual perversion, or in his emotional instability he may dwell more intently on sexual matters than does the normal man or woman, and being acutely subject to suggestion he may admit abnormal experiences, some of them real, some of them imaginary; but all this is an incidental manifestation, not a cause, of his unfortunate state.

The nervous system of this type of patient may be likened to a substandard automobile tire. For a time the tire will wear and give good service, but eventually, long before it has covered the normal mileage, there comes a blowout. Any immediately preceding jar or shock may be blamed for the blowout, but the real reason is a defective fabric. It has traveled about as far as it can go; a certain amount of patching and vulcanizing is still possible, but thereafter it punctures frequently, blows out occasionally and obviously is not dependable. The patients of whom I write are equipped for the journey of life with a nervous system which is just as defective as the fabric of the substandard tire; the incidental strain which may initiate the nervous breakdown is, in the ultimate analysis, no more responsible a factor than the chance jar which gives the tire its blowout.

I do not mean wholly to deny the causative influence in the psychoneuroses of those situations which bring unhappiness, perplexity and unsatisfied longings, for such burdens when they fall on an emotionally unstable person are admittedly most apt to topple him over; and the burden may be so great that it will in rare instances destroy the equilibrium even of the person whose stability is firm; but I do make bold to say that in the mild psychoneurotic patients whom I see such factors do not ordinarily play the predominating rôle accorded them in the psychiatric literature. The more I endeavor to fathom the emotional vagaries of these patients the more do I appreciate the truth of a German proverb which says: ."Not what we experience but the way we receive what we experience determines our destiny." These persons come into the world a substandard product, and they are unable to meet with equanimity even the most ordinary of life's problems.

The digestive distress of the psychoneurotic person, although sometimes greatly exaggerated, is, as a rule, genuine. His sensitiveness causes him to be acutely aware of even the most insignificant departures from normal function—departures which in another person would pass unnoticed—and his poor nervous control makes such functional disturbance a frequent occurrence. It is abundantly evident that the digestive functions are profoundly under the influence of the emotions. I recall a gastric fistula dog with which I once worked and the great care we took while collecting gastric juice to keep him in a happy frame of mind. If he was contented, the yield was good; if he was teased and made angry, the flow stopped.

Disturbances of motility are much more frequent and more potent causes of digestive discomfort than the abnormal secretory activity. In fact, moderate departures from the normal secretory activity of the stomach or intestine do not as a rule interfere with the comfort of the average person. It is only when there is an abnormal sensitiveness and more particularly when there is motor disturbance that distress is experienced. Cardiospasm is an outstanding example. Even the distress of globus hystericus depends on actual muscle spasm. The profound influence which the emotions are capable of exerting on gastric and intestinal motility can be easily demonstrated in the fluoroscope. I once saw barium given by rectum to a hysterical patient, for the purpose of visualizing the colon, travel by reverse peristalsis throughout the entire small intestine and appear in about fifteen minutes in the stomach.

These patients may complain of anything, but taken as a whole their symptom complex presents certain fairly well defined characteristics. The association of many obviously unrelated symptoms, and their bizarre nature, will sometimes tell the tale. Variability from day to day both as to the nature of the symptoms and

* Read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

as to their time of appearance is often significant. The patient who told yesterday perhaps of one type of disability which made an invalid of him, when he comes today emphasizes some entirely different form of distress, previously unmentioned, which now makes life almost unbearable. The intensity of his interest in his symptoms, the manner in which he recites them, and the little memorandum which he sometimes produces are all characteristic.

From such evidence we are sometimes justified in drawing final conclusions, but nevertheless a careful examination should not, under any circumstances, be omitted. A widely read book on the psychoneuroses states that gastric analysis, roentgenoscopy and similar procedures are harmful because they tend to fix in the patient's mind the belief that his troubles are organic. My feeling is just the reverse, for two reasons: first, the psychoneurotic person does sometimes get sick—he may have gallbladder disease or gastric ulcer; and second, a careful examination undertaken without prejudice is usually necessary in order to demonstrate to the patient that his troubles are receiving the consideration to which he feels they are entitled. A prerequisite of the psychotherapy which is to follow is confidence, not only in the physician's ability but also in his genuine interest.

The treatment of patients whose digestive disorders depend on psychic and emotional instability does not differ essentially from that properly accorded all psychoneurotic persons, no matter what their complaints. The principles are clear, but their successful application is frequently most difficult. Patience, firmness, frankness with tact, a sympathetic understanding and the ability to inspire confidence are all essential. In addition to encouraging him to talk freely of his troubles (mental catharsis) together with an effort to adjust these troubles, pains should be taken to explain to the patient, frankly but tactfully, the true nature of his disability. He should be told that most of us have our handicaps, and that his is an emotional instability which he must carry through life. He should understand that when he properly appreciates the nature of his particular handicap and loses his fear of its consequences it will probably become less burdensome. He should be convinced that nothing grave is going to happen, and that if he will patiently put up with his distress and discomforts and not let them alarm or grievously annoy him, they will soon become less intense and perhaps finally disappear. I think it important that this explanation and warning embrace the patient's whole future. He should be told that because of the handicap which he carries other functional disorders may at any time beset him, but that if he realizes their true nature they can do him little harm.

These patients require moral support, and to this end they should for a period be instructed specifically as to work, exercise, rest, play and diet. While the dietary instructions should be specific, the patient should be given fully to understand that they are intended merely to insure adequate nutrition, and that such a diet is appropriate for any person who would preserve his health. The food phobias which such patients have are sometimes most tenacious, but they should always be eradicated. A short stay in a hospital with continuous reassurance and moral support offers sometimes the only means of overcoming them.

The conception which I have expressed of the nature of these mild psychoneuroses might be regarded as so thoroughly fatalistic as to suggest the futility of all treatment. This is far from true. Experience testifies that an understanding of the nature of his troubles will in a measure restore to the psychasthenic patient his lost assurance, and will go a long way toward bringing happiness and comfort. When we know that we are riding on defective tires we avoid rough roads; we do not travel too far from home, and when a puncture does occur we take it philosophically.

930 South Twentieth Street.

EMOTIONAL AND PSYCHIC FACTORS IN DISEASE

INFLUENCE ON EXOPHTHALMIC GOITER, DIABETES MELLITUS, AND DISEASES OF THE NOSE AND THROAT *

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Exophthalmic goiter is a disease whose etiology is far from a settled question. Many studies have been made by workers on large groups of patients. Their conclusions differ so widely and also differ so much from personal experience that it must be concluded that the disease has a varied etiology. All students of this disease agree that the nervous system in its entirety plays an important rôle.

It is well known that emotional stress and psychic upsets often seemingly initiate this disease. Careful study is necessary, however, to prove this statement. It is probably true that many cases are such mild types of the disease that they have been overlooked. Any severe or unaccustomed shock to the emotional make-up of the patient may aggravate the symptoms and change a mild case into a severe one. Latent cases, or those which are constitutionally or potentially cases of exophthalmic goiter, may really be transformed into active cases of varying degrees by nervous shock. It is difficult to differentiate between cause and effect in many instances.

When we study the course of the disease, we cannot escape the fact that the nervous system is intimately connected with the disease. Nervous, emotional and psychic disturbances are prominent features of all cases. This fact may be expressed forcibly by a patient's own description, who says, "Why am I so different from my former self?" or, "Why am I so different from the friends of my own age?" These individuals recognize in themselves a changed temperament, even a changed personality.

If we study these cases, we shall find early mental alertness which is closely associated with psychic instability. This mental alertness will often be replaced later in the course of the disease by mental sluggishness; i. e., lack of concentration and sustained mental effort. The psychic and emotional life of these persons is on a lower level, so that the normal experiences of life upset them. They break out into laughter or uncontrollable anger, or are moved to tears on the slightest provocation. They become irritable, impetuous and unreasonable. Emotional contrasts are a frequent occurrence; i. e., depression follows exhilaration; excitement replaces calmness; anger gives way to tears. In some cases, the emotional and psychic instabilities occasionally and gradually pass over into

* Read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

delusions or hallucinations. In other cases, the mental change comes on suddenly.

The tachycardia, the tremors, to some extent the exophthalmos, the muscle weakness and other symptoms are a measure of the toxicity. Is this fact true of the nervous symptoms? In my study of the nervous symptoms, I do not find any sequence, as a rule, in their development; hence, I must conclude that they are not a direct measure of the toxicity. As the tachycardia increases, as the muscle tremors and the purposeless muscular movements increase, as the basal metabolism rises, and as the mental alertness becomes less acute, I think, on the whole, emotional or psychic upsets occur. It can be said, therefore, that in a measure the nervous symptoms parallel the toxicity.

It is well known that the course of this disease apparently runs in cycles. So-called crises are not inherently a part of the disease but are usually due to sudden change in the environment of the patient, which acts as an added stimulus to an already overstimulated and unbalanced mechanism. This added stimulus adds fuel to the flames and an explosion results. Frequently, a crisis is followed by an apparent cure. More often the symptoms are relieved for a time. During this interval, nervous instability frequently persists, and is probably due to a more or less permanent injury to the nervous system during the crisis.

Another factor that plays an important part in the genesis of psychoneurosis in this disease is the medical handling of the individual case. Every patient with exophthalmic goiter is an unstable physical and nervous subject. He is nervously explosive on account of the lowered psychic level or unbalance of his various functional nervous states. Any sudden change in the environment is apt to bring on nervous upsets. The removal to a hospital, a railroad journey to the hospital, a change of nurses or physicians, in many instances, has produced all sorts of nervous and mental derangements. Putting the patient to bed at home or in the hospital without proper nursing and without proper instructions as to why bed rest is important, or the blunt statement of the physician, "You must be operated on," are frequent causes of severe increase in all symptoms. Some of these patients are worse off when put to bed by some physicians, and better off, able to be up and around, when cared for by other physicians.

Another important influence in the development of psychoneurotic symptoms in these cases is the disturbed nutrition. It is known that the more severe the general symptoms, the higher the basal metabolism, as a rule. The rapid oxidation of the food causes marked loss of weight unless proper dietary measures are carried out. Keeping up the nutrition is often difficult because of the frequent gastro-intestinal troubles and other complicating factors. Inattention to the important factor of proper diet results in undernourishment. This condition, as in all diseases, lowers the stability and proper functioning of the nervous system. There may be an increase in all the symptoms, apparently due to an increase in toxicity, and this results in more frequent and more severe emotional and psychic derangements.

Another factor which plays a part in the tendency to emotional and psychoneurotic symptoms in the course of the disease is the frequency of complicating diseases. The cardiac arrhythmias and other cardiac derangements, intercurrent infection, changes in blood pressure, gastro-intestinal upsets, the development of nephritis, and, in fact, any pathologic condition, acts as an irritant to the already disturbed nervous system. The sum total of all the disturbed physiologic function is an overload in these unbalanced subjects that results in many nervous outbreaks.

The explanation of the nervous symptoms in exophthalmic goiter is mostly conjectural. Is the point of attack of the toxins on the sympathetic nervous system, as is often held? This explains many of the general symptoms, but it cannot explain the more severe nervous symptoms, such as the psychoses. Is the point of attack the medulla oblongata? Some facts seem to point this way. Is there a constitutional something in certain individuals which makes them potentially subjects of the disease? Toxic adenoma usually runs a different course, even when the toxicity is severe. Why this difference if toxicity alone is responsible?

When we can explain why iodine acts favorably on many of these cases, when we know why ligation benefits some and not others, when we find out why operation does not completely remove all the symptoms, and when we understand why many severe toxic cases present few or mild nervous symptoms, we shall know more about exophthalmic goiter.

DIABETES

The study of diabetes mellitus in the different phases of its unchecked course leads to a study of widespread pathologic changes from which there result certain symptoms which, perhaps, might be called end-results of this disease. In all cases of diabetes mellitus, either early or late, there are always profound changes in the nervous system. This manifests itself by sensory changes, changed deep reflexes, disturbances in coordination, nerve changes in the form of neuritis, trophic changes, and a variety of mental disturbances.

Is there a direct causal relation between the disturbed metabolism and these nervous changes? Is there a neuropathic basis which consists of a disturbed relation between the endocrine hormones and the nervous system, especially the sympathetic nervous system proper?

The answer to these questions cannot as yet be formulated. In a study of diabetes mellitus, which does not have a definite known etiology, we cannot lightly pass over the neurologic factors in the possible production of this disease or ignore these factors in the course of the disease. Diabetes mellitus might be called a neurologic disease with the disturbances in metabolism as end-results. This, at first thought, may seem a startling statement.

Let us review some of the facts. From 4 to 5 per cent of all diabetic patients are children under 10 years of age. In these cases, the hereditary diabetic history is often found. Often, the physical make-up of these children is abnormal, and neuropathic variations are frequently seen. A careful and thoughtful study of the individual case will often bring out many prenatal and developmental abnormalities.

In the study of diabetes mellitus, in later life, we find, on the whole, certain facts which fit in with this statement. The stature of the majority of diabetic persons is below the normal. Their weight is usually above the average. The bony framework is more delicate than normal. Study of the physical make-up of these patients in detail will often reveal many other differences which show a rather definite departure from the normal standard.

A study of the neuropsychiatric make-up is often quite distinct. If the past history of these patients is studied, it will often be found that disturbed emotional-

ism has been a dominant factor in their lives. When we study the physical, nervous and mental development and characteristics of an individual, we must, of necessity, find a harmonious whole, in order to call him normal. A proper balance of these factors plays an important part in the emotional and mental make-up of the individual. Physical, mental, nervous, emotional and psychic abnormalities are the usual rule in many of these cases. We may therefore have a constitutional nervous and physical make-up which makes us potentially diabetic.

It may be said that I am theorizing, and I admit it; but so has every writer on this subject and so will they continue until more definite data are at hand. The frequency of a low sugar tolerance and glycosuria in mental disorders, the occurrence of so-called emotional glycosurias, the frequency with which emotional upsets and severe mental strain apparently initiate diabetes, and the frequency with which emotional and psychic upsets aggravate an already established diabetes, are well known and emphasize the nervous factors in the disease.

The emotional and psychic upsets in the course of diabetes are extremely varied. There may be only mental dulness. As a rule, diabetic persons are not highly emotional but are more often depressed. Their moral make-up is changed in many instances. They often become scrupulous and even more religious. Depression of spirit, indifference to surroundings, resistance to suggestions, and melancholy with a gradual development of coma in unchecked cases is not infrequently seen.

What relation is there in these nervous and mental changes to the severity of the metabolic changes taking place in the course of the disease?

Coma has been said to develop without rhyme or reason; but this statement, with our present-day knowledge, does not hold. In many diabetic cases running a fairly normal course, physical shock, nervous shock or changed environment may produce an explosion in metabolism, and coma results. In every case of coma there is surely a toxemia which in some way affects the higher nerve centers and the brain.

The various psychotic changes that occur in the course of diabetes surely have something to do with the metabolism, and they are usually relieved, at least temporarily, by proper treatment. In many cases, a nervous residue often remains, even after proper treatment has been carried out. This may be due to severe changes in the central nervous system, or may be due to arteriosclerosis, which is frequently an accompaniment in this disease. In many cases, the psychic and emotional manifestations continue even when the disturbed chemical processes are known to have become fairly normal and there are no gross lesions to be found in the nervous system or vascular apparatus. This again emphasizes the fact that every individual may have a constitutional diabetic tendency. I believe that there are more psychoses and nervous upsets, even coma, in these so-called constitutional cases than in those in which this evidence is not so clear.

It is well known that a certain percentage of diabetic patients never have marked nervous disturbances or develop coma, even though it is known from the chemical and dietary study that they have the rather severe type of the disease. Why is this? Do these patients have a more balanced nervous system, or is there something which has not as yet been discovered in this disease?

LARYNGOLOGY

The nose with its accessory sinuses, and the throat, especially the tonsillar ring, are frequent sites of both acute and chronic infection. Some of the acute infections subside readily and do not leave any mark or effect on the nervous system which is lasting. Many of these acute infections gradually become chronic, especially those in the accessory nasal sinuses. Chronicity in these conditions is an important factor, and perhaps the most important factor, in the emotional and psychic states which are so frequent and profound in many of these individuals.

The cause of the nervous manifestations, to my mind, is not based on the intoxication from the infection, which is probably a negligible quantity. We do not have a known measure of the systemic effect of intoxication from focal infections. There are no symptoms in these infections that are characteristic in any sense. In these chronic infections in the nose and throat, is there any evidence that the toxemia is an important factor in the emotional and psychic disturbances in these cases?

When we come to study the effect of chronic tonsil infection, we must, of course, grant a modicum of toxemia. All sorts of pathologic changes have been attributed to chronically infected tonsils; but it is very difficult to prove any direct relation between this supposed intoxication and the pathologic condition present.

These chronic tonsillar infections may produce, in many individuals, tachycardia, with a mobile vasomotor apparatus. The constant cardiac rapidity and the marked vasomotor changes, resulting in unequal blood distribution, become more and more pronounced. The patient soon becomes conscious of his heart, and finally conscious of himself. Mental effort fatigues him. Physical effort causes an increased cardiac rate, with breathlessness, a sense of constriction of the throat, muscle trembling and muscle weakness. The constant repetition and certainty of these symptoms brings on all sorts of emotional and psychic upsets, ranging from simple phobias to stark terror. How much of this is due to toxins, and how much to the chronicity of the disease, is a question yet to be settled.

Every clinician knows how frequently there are emotional and psychic disturbances in chronic infections of the nose and the accessory sinuses. Neuroses of all kinds, nervous irritability, exhilaration followed by depression, phobias, hysteria, insomnia, and a whole host of variable nervous symptoms are a frequent accompaniment of these infections. Are these nervous symptoms due to the chronic infection or are they due to the chronicity of the disease? I stated previously in this paper that I believe that in this particular group of infection the chronic toxicity is a negligible quantity. A greater influence than the toxemia is found in the chronicity of the disease, the chronicity of diagnosis and the chronicity of therapy.

The cause of the nervous symptoms in these chronic infections may be classified as follows: (1) chronicity of symptoms and disturbed physiologic function; (2) chronicity in diagnosis, and (3) chronicity in therapy.

1. Constancy in the symptoms is an outstanding feature. Headaches, frontal pressure symptoms, difficult nasal breathing, dizziness, frequent respiratory infection, and, as some patients say, a constant nagging, headachy feeling, ranging from discomfort to actual pain, are some of the many constant and chronic symptoms found here. This constant discomfort gradually

wears down the psychic morale of the patient, and then begin the emotional and psychic symptoms so often found in this class of case.

2. The diagnosis of these infections is frequently difficult, particularly when the physician tries to explain to the patient the reason for all his symptoms. The physician frequently calls in consultants who give slight differences in the diagnosis, and often give a reversed diagnosis. These multiple consultations and, as is often the case, frequent discussions of the consultants in the presence of the patients are well known causes of the mental instability which results in emotional and other nervous disturbances. I have a strong conviction that the medical handling of these cases is frequently a cause of the mental and psychic instability.

3. What influence has chronic therapy in the production of these nervous states in the course of this disease? The daily or triweekly nose and throat treatments, extending over months and even years, is bound to and does have a bad psychologic effect. The routine questions asked of a patient at each visit, such as, How is the headache? How is the breathing? How is the pain? Does the treatment do any good? all serve to call the attention of the patient repeatedly and constantly to himself. The effort of the patient in calibrating these symptoms and the sameness and fixity in the treatment by the physician cause a lowered emotional level, and what then?

I will venture the statement that many psychoneurotic patients are thus made. The pathologic physiology, as it is found in the various diseases, is not always the cause of nervous, mental or psychic instability. These symptoms, which we often think result from the disease or from the constitutional condition of the patient, are frequently brought on by improper medical care. The natural fears of the sick individual produce changes in his nervous and emotional make-up. The physician, in his zeal for absolute diagnosis, often loses sight of the patient. Scientific medicine has accomplished much in the way of diagnosis; but the scientific and proper care of the individual patient, particularly as to his nervous and mental make-up, has not been so intensively studied, and the patient suffers as a result.

Humboldt Building.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. HUNT, FOSTER, MC LESTER AND NEILSON

DR. E. BATES BLOCK, Atlanta, Ga.: It is very interesting to consider just why certain individuals have these psychic and emotional factors in their behaviorism and others do not. We are all dual personalities, whether we are high or low. The dual personality is brought about by two great groups of factors: first, the primitive instincts, consisting of the instinct of nutrition, the instinct of self-preservation, and the instinct of reproduction; and second, an instinct that has been attained through environmental influences, which is in direct opposition to the primitive instincts. I refer to the herd instinct, embracing civilization, with all that it carries with it; our conscience; our views of right and wrong; our religion, and our obedience to social and political laws. The primitive instinct and the herd instinct are constantly at warfare from the beginning to the end of life. As Dr. Hunt says, it is a question of excitation and inhibition. We come out in our ultimate behavior according to the manner in which we handle these matters. Behaviorism is not merely a matter of the individual as a whole, but there is a behaviorism of the organs in the body. These are determined by correlated impulses. We have what we know as substitution of a part for the whole. The point that I want to make particularly is this: whenever there is a reference to a certain part of the body, there is usually a psychologic or symbolic significance and a reason why one part of the body is picked out in preference to another.

DR. ARTHUR D. DUNN, Omaha: We have all read that emotional stresses and strains "take the heart out" of human beings. Fiction has it that death may occur of a broken heart. Such events occur not only in fiction but also in medical practice. I know of no other condition that I fear worse than psychic trauma in certain types of cardiovascular disease, especially in hypertension. The psychic trauma leads to circulatory depression; following the circulatory depression there is decreased or impaired food and oxygen supply to the brain cells. The depression becomes greater, and a vicious circle is established which is very difficult to break up and which not uncommonly precipitates death. It would seem that in hypertension cases and in cases of beginning impaired senile circulatory trouble, periodic health examinations should be of some value. Effort should be made to convince patients with such disturbances that they should not get into conditions, or assume financial or other obligations, that are likely to precipitate psychic trauma. The effect of psychic states on the blood pressure is well known. Readings must be repeated frequently in order to get a basic reading. The first reading taken in the office is often from 20 to 30 points higher than readings taken on subsequent days. One can occasionally talk the patient out of 20 or 30 points of systolic blood pressure. The reaction to psychic conflicts is often absurbly out of proportion to the conflicts present. It must not be forgotten in the study of psychoneurotic persons that they may also have organic disease. One of the common mistakes after making the diagnosis of psychoneurosis is to attribute all subsequent manifestations not obviously organic to the psychoneurotic state. It should also be emphasized that low grade, chronic, irritative organic disease may profoundly influence the psychoneurotic and prevent that individual from "compensating," so to speak, for his neurosis. Chronic appendicitis, focal infection from a tonsil, or a low grade gallbladder or sinus disease may be the additional load that prevents the psychoneurotic person from handling his neurosis. Organic disease in psychoneurosis must be treated not merely for its sake, but in order, by its removal, better to enable the psychoneurotic person to "compensate" his neurosis.

DR. WILLIAM A. WHITE, Washington, D. C.: Some few of us in the realm of psychopathology have always had a great faith that ultimately the psyche or the mind of the patient would come in for proper recognition in the general practice of medicine. Why it has not in the past is perhaps a long story. I have my own feeling about it. I have a suspicion that the conservative factor in medicine has operated in conjunction with the early teachings of the church that have allied the flesh and the devil for 2,000 years, so that we have always been anxious to hitch on the body all the sins of the soul. The mind did not come into the picture of evolution at some particular point and did not attach itself to the body in an extraneous sort of way—the way in which a crow perches itself on a telegraph pole. The psychic factors of the organism are as much a part of it as the somatic factors, and if we were to consider the organism as a crystal, for example, the psychic components would represent only one of its facets. And so psychopathologists have always believed that the persons who were really treating the psychoneuroses were all medical specialists, except the psychiatrists. Psychic factors were recognized very definitely 2,000 years ago, but it is one thing for the occasional physician to recognize them, intuitively and unconsciously, and it is an entirely different thing for that recognition to be made conscious and to become the possession of the entire profession.

DR. MAX EINHORN, New York: A woman had suffered for a number of months from recurring attacks of so severe a nature in the left portion of the abdomen that morphine was needed frequently. A roentgenogram taken of the lower bowel showed a spot past which the barium would not go. There had been blood in the stools. The question was whether this condition was a malignant disease of the bowel necessitating an operation. The history pointed to duodenal ulcer, and I suggested that the patient should be treated first for the ulcer;

meanwhile we would wait to see whether there was a real trouble in the colon or not. This was done and the patient got well. Five or six months have since elapsed, and the spot in the bowel has disappeared by itself, indicating that the defect must have been due to a spasm in the colon. This case shows that it is necessary sometimes to make a thorough examination by all sorts of means. The mind has an influence over the body. If there is an insufficiency of food for a long time, the nervous system will be affected. Organic disease may not be present at first but it may develop. In regard to treatment, it is necessary to feed the patient well, that it may be possible for him to subsist and not to continue to lose, and that the nerves may also get enough nourishment. No matter what the disease is, one should see that the patient eats enough. Even a bad constitution can be turned into a good one by a proper amount of food and judicious living.

DR. EUGENE S. KILGORE, San Francisco: In neurology, students are prepared to recognize neuroses; but if in the department of medicine we ask a fourth year student to study and report on perhaps ever so typical a psychoneurotic case, positive coaxing is often required to induce him to admit the presence of the one thing that is wrong with the patient. He has been taught, rightly enough, the danger of slipshod functional diagnoses which miss the pathologic condition present. Most of his clinical effort has been directed toward the mastery of technical methods of examination, often for the most part under teachers who lack the opportunity, if by chance they have the inclination, to deal with the problems of nervous private patients. The drive is toward diagnosis. The student's goal in his case study is to fit patients, as it were, into a system of pigeonhole for card index filing, and he is afraid of the neurosis pigeonhole. Most of these obstacles to the students' appreciation of psychoneuroses seem difficult to modify except by the growth of a more sympathetic attitude toward the subject on the part of teachers. But the "pigeonhole" difficulty might be obviated. And I venture the suggestion that every case be considered as having two aspects requiring assessment following the diagnostic study: first, organic, and second, mental-nervous. The patient with many complaints and fears but without discoverable structural changes would be assessed high in the second category and zero in the first (but with the mental reservation that the zero refers only to pathologic changes demonstrable by present methods, and that it may exist in the molecular constitution or elsewhere beyond our reach at present). Another patient will show prominent pathologic changes and a stable mental-nervous make-up; but nevertheless we must remember that he has a personality that should receive consideration in treatment. Others, and these are numerous and important, will need considerable rating in both categories. Such a habit of scrutiny, with the object of assessing these two aspects of diagnosis as they practically affect our handling of the patient will often bring forward the fact, for example, that a patient with mitral stenosis is actually suffering more from his mental reaction to the disease than from the thing itself, and that in the recognition of this fact lies our principal opportunity of helping him. The psychic culturists generally ignore pathologic conditions of the body and yet, we should admit, in a surprising number of instances do accomplish gratifying results because they attack the thing that hurts so many sick folk. We have neglected it too often.

DR. EDMUND JACOBSON, Chicago: Is there not a possibility that this new topic may become too interesting in the sense perhaps of amounting in its next stages to little more than exchanges of opinion? If a neuropsychiatrist asserts that some particular phenomenon is caused by a certain emotional condition, but some one asserts the contrary, how shall we know whom to believe? If we are told that the nervous system of every individual is predetermined at birth, how are we to decide whether this is true except by opinion? Reports in the field of electrocardiography or of insulin and diabetes, for example, have passed the point in their development at which they are merely fascinating; they have become severely technical. Such I believe must be the character of the further development of this topic if it is to become genuinely useful to the medical profession. Many careful laboratory investigations have been made on the emotions as related to circulation, respiration, tremor, basal metabolism, oxygen consumption, electric reaction, gastric secretion and motility, and other physiologic reactions. Further studies of this sort, with applications to medicine, along with carefully controlled experiments, would seem to be the next logical step in the development.

DR. STEWART ROBERTS, Atlanta, Ga.: Dr. Kilgore made the point that our medical students are being turned out without close kinship and experience with human suffering and the art of medicine, or with any understanding of the psychoneurotic person. If at some time, say at the close of the junior year, every junior medical student could go into the office of a country practitioner for three months, he would have at least an introduction to the psychoneuroses. I want to emphasize just one phase of this problem. A psychoneurotic person is a poor teacher of himself and a good teacher of any physician who will listen long enough—a poor teacher of himself so far as the degree and form of his neurosis goes. I have often wondered how long a psychoneurotic person would stay in my office and talk to me if I could take for once the risk of making contrasts. A genius is helpless in telling others of his gifts but he is a power in the expression of his gifts. Being poor in pedagogy, the neurotic person lives unnaturally, and our sole duty in his treatment is to bring order to his mind or to his body and teach him to lead a conventional life. Good psychotherapy is nothing more or less than good teaching.

DR. E. C. ROSENOW, Rochester, Minn.: In order that not too much emphasis may be placed on the purely psychic and emotional factors without reference to cause, in their relation to various forms of ill health as brought out in this symposium, I wish to refer to some experimental observations in animals injected with bacteria that have caused diseases of the nervous system, especially the late manifestations of encephalitis and spasmodic torticollis. It has frequently happened that during, or as acute symptoms of encephalitis disappeared, the animals developed peculiar rhythmic or tic-like movements, including marked changes in their behavior. These symptoms could often be incited or modified at will by various stimuli received by the animal through the senses of touch, sight, smell and hearing. In some of these, sections of the brain and cord proved free of lesions. In other words, conditions, in essential respects like those usually considered functional in origin, have been induced experimentally in animals by means of living microorganisms.

DR. J. RAMSAY HUNT, New York: The constitutional factor in the psychoneuroses has been emphasized by one or two of the speakers who have suggested a chronic or even incurable background for this group of cases. I should like to say that psychopathologists today are emphasizing less and less the importance of inherited constitution as the decisive factor, at least in the sense of its being a serious bar to a constructive adjustment to life. Of course, every organ and every organic system of the body is founded on constitutional factors, but in dealing with problems of mind of the functional type, the environmental factors are of equal if not greater importance. The conflicts and inward difficulties of the individual resulting from these nonconstitutional causes are amenable to psychotherapeutic methods of treatment. Psychopathologists have found that even in chronic psychoneurotic types great improvement has been gained by prolonged methods of treatment, and they are much more hopeful about this group of cases than was formerly the case. Forty years ago the terms chronic, hereditary and degeneracy were given much more weight than is the case today. I should like, therefore, to emphasize this optimistic trend in the field of functional nervous disease: viz., neurasthenia, hysteria and their associated psychologic states. If treatment can be instituted in early adult life, the results are even more favorable. And the earlier in life the problem is attacked, the better. At the present time the Child's Guidance Clinics are attempting to meet this situation while mind and character are still plastic and in the developmental stage.

DR. CHARLES HUGH NEILSON, St. Louis: Twenty years ago when I was a student of Dr. Jacques Loeb, in Chicago, he made the prophecy that the next twenty years of discovery in medicine would not be along qualitative lines but quantitative

lines, using the finest of chemical methods. Dr. Loeb's prophecy seems to have come true. I have often wondered what the next fifty years will produce in medical discovery. I do not know that I am as good a prophet as Dr. Loeb, but I think an intensive study of the problem we have been discussing here this morning along quantitative lines and not qualitative lines, as has been done for the last hundred years, will bring better results.

THYMIC STRIDOR *

W. WALTER WASSON, M.D.
DENVER

For the purpose of description, infants with respiratory stridor may be roughly separated into four classes: (1) the group of infants who at birth make a respiratory noise most likely due to mucus; (2) the group from 1 to 2 months to 1 year of age who have a stridor varying in character, which is usually attributed to the thymus; (3) the group with anomalies and tumors in which there is definite evidence of a pathologic condition to account for the stridor, and (4) the group with definite and unmistakable infections of the nose and throat or of the trachea and bronchi who often have a respiratory stridor. Certain infants with asthma may come under this class. In this paper I discuss only the second group of cases, in which there is a respiratory stridor commonly called "thymic stridor," the term "stridor" being applied in a general way to any noise apparently coming from the trachea.

It will be seen that group 2 includes those infants from 1 month to 1 year of age who have a respiratory noise for which the attending physician is unable to find any definite cause. Many theories as to the cause have been advanced in the past, but the one which has gained the greatest support is the one which concerns the thymus gland. This gland is supposed to exert pressure either on the trachea by its size, especially when engorged, or perhaps through some internal secretion. It is quite likely that the thymus gland may produce respiratory stridor in such a manner, but since the roentgen ray has come into general use, almost every respiratory grunt has been attributed to the thymus. In other words, if the child has a respiratory stridor of any degree of intensity, without further examination a roentgenogram is taken, and if there is any evidence of a thymus this gland is then assumed to be the cause. If there is no evidence of thymus then it is assumed that the roentgenogram did not accurately portray the anatomic situation, and the thymus gland is still assumed to be the cause. The patient is then placed on roentgen-ray therapy and fortunately, in most instances, does well. However, in most of this group of cases there is a natural tendency to get well. I should therefore like to raise the question whether all in this group present true thymic stridor.

Recently, I [1] have published some observations on the thymus gland which convince me at least that this gland normally begins to grow sometime near birth and, growing with varying degrees of rapidity, reaches its maximum for this period of life near 1 year of age; then it undergoes a reduction in size until at from 28 to 36 months of age it is no longer seen on the roentgenogram. There are many factors which influence this growth, but in a general way the decidedly undernourished infants have small thymuses, while the well nourished and overweight children have moderate to large thymuses. It will be observed that the class of infants under discussion are from 1 month to 12 months of age, just the time when it should be expected that the thymus would be growing and prominent as seen in the roentgenogram. Likewise, if a case comes to autopsy, a definite thymus is found at this age and again this is assumed to be definite evidence in favor of the diagnosis of thymic stridor. If my observations are correct—and there are others, such as Dr. Boyd,[2] who have found the same to be true—it would seem that this finding of a large thymus associated with respiratory stridor is coincidence, and that such a possibility has not been given proper consideration.

For the last few years I [3] have had the opportunity to roentgenograph and study a number of infants from birth. Many of these children are now 5 years of age. In this study I was impressed with the frequency with which the bronchi or even the lungs proper showed evidence of infection, and also with the early age at which this evidence of infection is apparent on the roentgenogram. Frequently, at 1 or 2 months of age, or even earlier, the infection makes its appearance and may be traced roentgenographically to a definite pathologic condition at 2, 3 or 4 years of age. The paranasal sinuses [4] have been found to be associated frequently with such infection, and the incidence of sinusitis increases rapidly after the first few weeks of life. Similar observations on the sinuses are beginning to be recorded in the literature. Cunningham [5] has reported a series of cases of bronchial asthma as a result of bronchial and paranasal sinus infection. Dr. T. E. Carmody, Dr. L. W. Dean and many others also have emphasized frequently the importance of sinus infection in infants. It is therefore quite likely that infection of the sinuses and respiratory tract in general takes place earlier and more frequently than is commonly supposed, and, being of varying degrees of intensity, may be transitory in nature or even prolonged into a chronic condition. It has also been a rather general observation that the reflexes of the young infant do not enable it to raise mucus from the trachea in an efficient manner, and in many cases these reflexes are not adequate until the child is several months of age.

Recently, Dr. James B. Walton suggested to me the possibility that certain ones of the group of cases of thymic stridor could possibly be due to mucus, as is frequently found at birth. He has found that many such cases are relieved promptly by atropine. This observation caused me to review my series of young infants studied from birth, with the results just noted in regard to infection. I then determined to investigate the subject in the following manner:

1. To study thymic growth roentgenographically in these cases without roentgen-ray therapy or other forms of treatment.

2. To determine the results of methods of treatment other than roentgen-ray therapy.

3. To study the sinuses and lungs in these cases.

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* From the Child Research Council and the University of Colorado School of Medicine.

* Read before the Section on Diseases of Children at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

1. Wasson, W. W.: The Thymus Gland, Arch. Otolaryng. 4: 495-510 (Dec.) 1926.

2. Boyd, Edith: University of Minnesota, Department of Pediatrics, 1926.

3. A series of seventy infants has been under my observation during the last five years.

4. Wasson, W. W.: A Developmental Study of the Nasal Accessory Sinuses, Radiol. 8: 398 (May) 1927.

5. Cunningham, T. D.: Source of Asthma in Children, read before the annual meeting of the Radiological Society of North America, December, 1926.

4. To compare the results of the usual roentgen-ray therapy with other methods of treatment.

5. To determine what factor other than thymus might be causative in producing the respiratory stridor.

This investigation has not been carried on over a long period and has not included a large series of cases, but I shall report my observations to date.

REPORT OF CASES

1. To study thymic growth roentgenographically without treatment.

CASE 1.—Baby G., aged 6 weeks, had respiratory stridor without other symptoms, and no treatment was given. Roentgenographic studies at monthly intervals showed that the thymus was small in the beginning and grew steadily until the infant had a moderate sized thymus at 9 months of age. The stridor did not increase with the increase in the size of the thymus but did persist. The baby at times would raise mucus. When it was 9 months of age, the mother was advised to place the baby on the croup kettle with mustard plasters to the chest, but she did not carry out instructions. The baby was then placed on roentgen-ray therapy.

2. To determine the results of other methods of treatment than roentgen-ray therapy.

CASE 2.—Baby P. (seen by courtesy of Dr. James B. Walton), aged 2 months, had respiratory stridor with cough and mucus in the throat, without other symptoms. Treatment consisted only of regulation of diet. Roentgenographic studies showed a large thymus at 2 months of age, which increased somewhat in size and remained large at 7½ months. At 7½ months the baby was well and only very occasionally had a rattling noise in the throat.

CASE 3.—Baby S. (seen by courtesy of Dr. Bernard Dorset), aged 4 months, had loud inspiratory and expiratory stridor, and breathed with the mouth open—supersternal retraction. A roentgenogram disclosed a large thymus with considerable congestion of the bronchi. Examination of the nose revealed considerable adenoid tissue. Roentgen-ray therapy had been advised but the infant was placed on a treatment consisting of mustard plasters to the chest, the croup kettle (compound tincture of benzoin), and syrup of ipecac. This was carried out carefully by the mother, and the baby raised considerable mucus and made a rapid recovery. After ten days, the only evidence remaining was of the adenoid obstruction.

CASE 4.—Baby Z. (seen by courtesy of Dr. Emanuel Friedman), aged 7 weeks, had mild respiratory stridor; close questioning of the mother revealed that there had been a mild cold two weeks before and that the baby raised mucus with the head down. A roentgenogram showed a large thymus and marked congestion of the bronchi. The infant was placed on syrup of hydriodic acid and made rapid recovery.

CASE 5.—Baby B. (seen by courtesy of Dr. Harold B. Henderson), aged 1 month, had rather loud rough respiratory stridor, and for the past two days had had a very slight increase of temperature. A roentgenogram showed a very small thymus but considerable congestion of the bronchial systems. Roentgen-ray therapy had been advised in spite of the small thymus and the fact that the mother was tuberculous. The baby was placed on a treatment consisting of mustard plasters applied to the chest, the croup kettle and epinephrine in the nostrils, and made a rapid recovery.

3. To study the sinuses and lungs in these cases.

CASE 6.—Baby B. (seen by courtesy of Dr. John W. Amesse), aged 11 weeks, had had respiratory stridor, without other symptoms, since birth. Roentgen-ray therapy was instituted at one to two week intervals with from 20 to 35 milliampere minute exposures, 3 mm. of aluminum filter, 14 inch distance and 9½ inch spark gap. The baby improved rapidly, the stridor becoming considerably less and treatment being discontinued after six exposures. After the treatment was discontinued, the thymus began to grow and continued large. Congestion of the bronchi became apparent, and at 9 months of age there was evidence of sinus infection. The baby was placed on the usual treatment for sinus and bronchial infections with improvement, but a mild stridor still persisted.

CASE 7.—Baby W. (seen by courtesy of Dr. T. E. Carmody and Dr. Lawrence W. Greene), aged 3 months, had respiratory stridor, and had had one plastic operation for cleft lip and palate. Treatment consisted of nine roentgen-ray irradiations over a period of nine months with from 15 to 35 milliampere minute exposures, 3 mm. aluminum filter, 12 inch distance, 8 inch spark gap. As these treatments did not relieve the stridor, they were followed by regular treatment with colloidal silver (mild silver protein) for infected sinuses for a period of one month, at the end of which time the stridor had entirely cleared.

Roentgenographic studies at three months of age showed a large thymus with slight congestion of the bronchi, and a roentgenogram of the sinuses showed slight infection of the left ethmoids and antrum. At four months, the thymus was reduced in size, but there was increased evidence of bronchial congestion. At five months, still further reduction was seen in the size of the thymus, but the bronchial congestion still persisted. At eleven months the thymus was of a moderate size, and there was marked evidence of bronchial congestion.

The baby was put on treatment for the sinuses at 11 months of age and the condition cleared.

4. To compare the results of the usual roentgen-ray therapy with other methods of treatment.

CASE 8.—Baby S. (seen by courtesy of Dr. Emanuel Friedman), aged 11 weeks, had rather mild respiratory stridor without other symptoms. The usual roentgen-ray therapy, as described in case 6, was instituted. A roentgenographic study showed the thymus large at the beginning of treatment, and after five treatments reduced to a moderate size. The thymus began to enlarge again after treatment was discontinued. The baby was entirely relieved after the five roentgen-ray treatments.

5. To determine what causes other than thymus might be causative factors in producing the respiratory stridor.

Cases illustrating these points have been sufficiently reported in the foregoing.

SUMMARY

In analyzing the material presented, it seems that there are two facts of especial importance: (1) the thymus frequently shows growth from birth to 1 year of age, and (2) there is often infection of the sinuses or the bronchial systems without many symptoms pointing to such infections. There is also a third possible fact; namely, that there may be a coincidence of infection in the respiratory tract, with respiratory stridor, and a large thymus, especially from birth to 1 year of age. It seems that analysis of the illustrative cases presented would tend to bear out this possibility. Certainly, methods directed toward relieving infection have relieved the respiratory stridor, and such cases of respiratory stridor did not appear any different from other cases which are usually diagnosed thymic stridor. It is quite likely that some of these cases were caused by mucus in the trachea and bronchi without definite infection, and were therefore relieved by treatment directed toward relief of this mucus, or by natural development of the child and his reflexes. There seems to be no doubt that roentgen-ray therapy applied to the region of the thymus does relieve respiratory stridor or thymic stridor, but this fact does not necessarily prove that the stridor is due to the thymus. Some of the results with roentgen-ray therapy occur almost too rapidly, even before reduction in size of the thymus could take place, and these cases are said to be improved

by change in the secretion of the thymus. It seems that one might just as well reason that such benefit is due to the effect of the radiation on the mucous membrane of the trachea and adjacent bronchi. I have observed that the stridor does not increase with increase in size of the thymus, and it is rather difficult to believe that the increased strength of the trachea or adjustment of the mediastinal structures could compensate for this growth without increase in the stridor. I have not offered any objection to radiation therapy in the class of cases discussed; in fact, it may be the treatment of choice when the mother will not cooperate in other forms of treatment or when the stridor has been allowed to go for several months without any treatment. I have, however, raised the question of whether it is fair to assume that a case of stridor is due entirely to the thymus, based on roentgenographic evidence of a large thymus, or even of a small thymus, and thus deprive the infant of further examination directed toward the sinuses or the lungs. Certainly, the respiratory tract is often involved in this class of cases, and other methods of treatment besides radiation therapy give equally good results.

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ABSTRACT OF DISCUSSION

DR. HENRY F. HELMHOLZ, Rochester, Minn.: Dr. Wasson has gone at this subject in the right way. His contributions have added something very definite to the subject. In our discussion we ought to stick distinctly to stridor and not attempt to discuss the entire problem of thymic death, attacks of syncope, and a great many other things that have been ascribed to enlargement of the thymus. Dr. Wasson did not give us any figures, but as he assumed that, I gathered that none of the stridors were due definitely to enlargement of the thymus, but to some inflammatory condition in the respiratory tract. In seventeen years of practice I have not seen a case of stridor that I felt was due to thymic enlargement, I have not roentgenographed a single patient for thymic or so-called thymic asthma or thymic stridor, and I have seen a great many patients with stridor that could all be classified in the following groups: catarrhal croup, diphtheria, streptococcic infection, laryngitis, congenital relaxation of the larynx, and laryngismus stridulus. I feel definitely that location may possibly play some rôle in enlargements of the thymus. Certainly, the reports that have come from Cincinnati would make one think that enlargements of the thymus were more frequent there than elsewhere. I do not wish to give the impression that such a thing as thymic stridor does not exist, but merely to relate my own experience: that I have never seen a case that I felt was due to an enlargement of the thymus. Dr. Finkelstein said that all the so-called cases of thymic asthma that had been so diagnosed by roentgen ray were found later to be due to other causes.

DR. H. L. MOORE, Dallas, Texas: The frequency with which I see enlarged thymus makes me wonder whether I have an obsession along this line. Also, in discussing it with men throughout the country, I find that I see it more frequently than most of them do. I wonder if it is possible that the condition is regional. I will only call attention to three points which are at variance with most observers. First, the noisy breathing is usually thought to be the most frequent symptom of enlargement of the thymus. In my series of cases it has been the transient cyanosis, the superficial respiration, and a general muscular relaxation. This is in children under 1 year of age and occurs about ten times as often as the obstructive breathing. The second observation is the frequency with which I see enlargement of the thymus in more than one member of a family. I have had this occur in families that have given a definite history of thymic death and subsequent children of the same family have been discovered with it before any symptoms occurred. A fellow practitioner gives me a history of three deaths in one family, there being only three children, all of whom died before they were 1 year of age. A diagnosis was not made, autopsies were not held, but the symptoms were so classic that beyond a doubt they were all thymic deaths. While this subject was being discussed before a medical meeting in central Texas, a physician told me of a family of five apparently healthy children, all of whom died suddenly before they were 9 months of age. All presented definite thymic symptoms. I have adopted the rule that when there is a history of thymic enlargement in one member of a family, all other children are examined with the roentgen ray. I have been impressed with the fact that in a number of cases of severe, intractable colic, followed by cyanosis, roentgen-ray examination always has disclosed an enlarged thymus and that roentgen-ray treatment invariably was followed by marked improvement, relieving the colic in about 75 per cent of cases.

DR. LUDO VON MEYSENBUG, New Orleans: Just before coming here, I had a roentgenogram made of a 2 year old child for something not related to the thymus. The picture showed a very large thymus shadow, quite as large as that of the heart. I had another picture taken the next day, and to my great surprise the thymus shadow was scarcely visible. There was none there. If we had stopped with the first picture, and if we had determined that the child should receive roentgen-ray treatments, we would have wasted a great many treatments and incurred a great deal of expense to the patient.

DR. T. E. CARMODY, Denver: A thought has come to me as to whether, when there is infection in the upper respiratory tract, it has anything to do with the enlargement of the thymus. I think that possibly in some cases it has produced a pathologic condition in the thyroid. Whether these cases are coincidental, I cannot say. In some of these cases stridor was present. Whether it was due entirely to infection of the mucous membrane of the nose and lower respiratory tract or to pressure from the thymus is a question none of us can answer. But why is there not in these cases infection affecting the thymus, the same as infection of the thyroid comes from the tonsils and from the sinuses?

DR. ISAAC A. ABT, Chicago: The importance of the thymus as a cause of disease is overstated and exaggerated. I am inclined to think that Dr. Wasson is on the right track. First of all, what constitutes a large thymus, or what constitutes a normal thymus? Who can determine when a thymus is normal in size? I do not believe that anybody can. Thymus glands have been weighed and measured after death and they vary within a wide range in children of the same age. Roentgen-ray examination does not accurately disclose the size of the thymus in every case. During inspiration, the large veins within the upper thoracic cavity are dilated, casting a shadow which apparently increases the size of the thymic area. Consequently, the thymus is not as large as the shadow cast and therefore the roentgen-ray picture may be misleading. Not infrequently an enlarged heart due to a congenital cardiac lesion or to congenital idiopathic hypertrophy may simulate an enlarged thymus. Does a thymus produce stridor? I do not believe that there is any evidence during life or post mortem to show that thymic enlargement causes compression of the trachea or bronchi or larynx in sufficient degree to produce stridor. A congenital laryngeal stridor that is not altogether uncommon is recognized. The position should not be taken that every other possibility should be excluded before a diagnosis of stridor due to enlarged thymus is made. I fear that the conclusion is customary that the thymus is the cause of the stridor, when it is due to another cause. Is the thymus a gland of internal secretion? The reply is that it is not in the human being. It is supposed to be in some birds, I believe in the pigeon. In the human being, from the beginning of postnatal life until the end of life, there are few or no epithelial cells remaining in the thymus. Without functional epithelial cells, one cannot imagine a gland of internal secretion. Can the roentgen-ray treatment as it is so commonly practiced do harm? It may. Cases are on record in which the parathyroid glands have

been destroyed and tetany has resulted. In the future, when some of us will still be alive, we shall ridicule the position now being held concerning the symptoms supposed to be caused by the thymus gland.

DR. J. L. MORSE, Boston: I think that I have seen two or three cases of stridor due to pressure on the thymus. All the other cases that I have seen, that were supposed to be due to pressure on the thymus, have been due to adenoids, bronchitis, or congenital malformation of the larynx, with an occasional retropharyngeal abscess. I think it must be one of the rarest things, as Dr. Abt has said, for an enlarged thymus to cause stridor. If it did, it would have to cause both inspiratory and expiratory stridor. I doubt very much whether the roentgenologists can tell whether a thymus is enlarged or not, the normal variations being so great. If one thinks it is enlarged, it is difficult to tell whether it is doing harm or not. As Dr. Abt has said, I think that symptoms which are supposed to be due to enlargement of the thymus are almost invariably due to something else.

DR. J. VICTOR GREENEBAUM, Cincinnati: It is true that the diagnosis of enlarged thymus has been overdone to a large degree, but there are a number of facts concerning this condition that cannot be controverted. In the new-born service of which I have charge, we take a thymus picture of every new-born baby. The number at present is approximately 350. A large percentage of these showed enlarged thymus. We do not treat the baby if the thymus appears enlarged or if the roentgen-ray report states that it is enlarged, but these cases are followed very carefully, and at the first sign of cyanosis, unconsciousness, stridor or cough, we give treatments. It may be, as Dr. Helmholz has brought out, that a climatic condition peculiar to Cincinnati produces so many cases of enlarged thymus.

DR. W. WALTER WASSON, Denver: My observation of a large series of cases treated with radiation therapy is that the patients uniformly do well, probably 75 per cent. I did not take up the cases of difficult nursing and many more that are sent in for radiation therapy, nor did I take up the question of technic, as it would have led me too far afield. For many years the question whether or not the thymus can be radically portrayed in the roentgenogram is going to be debated. The terms pathologic or normal in regard to the thymus must not be used, as it is not at present known what constitutes a normal or pathologic thymus. I did not give any figures. I could have reported fifteen or twenty cases treated as I tried to illustrate, but when a physician sends a case with stridor, the roentgenogram showing a large thymus, and asks us to treat it, it is difficult to sidetrack him and sometimes the child should have treatment. One assumes considerable responsibility, in view of present literature, to say that this case should not be treated by means of radiation if there is a stridor present. I question whether all these cases are so-called thymic stridor cases or whether they are due to the thymus. I feel from my recent experience that a great many of them are not. Otherwise, they would not respond to treatment directed toward infection of the trachea, the bronchi or the sinuses. A certain percentage of these patients will get well untreated. The natural tendency of the child is to overcome this stridor, as I have classified it this thymic stridor, which I feel should be called respiratory stridor, between the ages of 2 and 12 months. Hydriodic acid alone will often relieve it, but my main thought is that we must change our ideas in regard to sinusitis, bronchitis and many other diseases of that nature. We must change our ideas that they begin in adult life. They begin in infancy in the majority of cases. We must watch our babies more closely in regard to infection.

Sclerosis of Renal Vessels.—The vast majority of those patients who come to us with the so-called "chronic interstitial nephritis" after they have reached the age of 40 are primarily vascular hypertensive cases in whom the sclerosis of small renal vessels has produced secondary degeneration and destruction of the kidneys. Rarely, indeed, in an individual beyond middle life can one attribute the nephritis to a previous acute nephritis.—O'Hare, J. P.: *Boston M. & S. J.* **197**:128 (July 28) 1927.

ENDOTHERMY IN GYNECOLOGY*

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In this country we owe the introduction of high frequency currents in general surgery to William L. Clark of Philadelphia and it is my purpose in this paper to speak of these currents in their application to gynecology.

Not to enter into technical details, there are three currents available which differ widely from the familiar fulguration methods which were in vogue for some twenty years with more or less success, but which have proved disappointing owing to the lack of penetrating power.

These currents are: (1) the monopolar, which is more or less superficial and which desiccates the surface but gains in penetration as the amperage is increased; (2) a bipolar damped current which coagulates the tissues and seals vessels and lymphatics, while sterilizing the area treated and destroying all malignant cells; (3) George A. Wyeth's "acusector," a rapidly oscillating undamped current with relatively low voltage and amperage, which turns a common needle into a scalpel and seals minor vessels and lymphatics as it divides them, while parting the skin like a curtain without carbonizing, and which is also an efficient and delicate dissector.

These procedures differ also *toto coelo* from the long familiar and useful galvanocautery, ferrum or cuprum candens, and the Paquelin cautery, in that the heat develops in the tissues at a focus of concentration from the large pole to the cold needle, which is the current vector. There is uniformity and no variation of the duration and the intensity of the current and heat except as controlled by the operator; there is also no carbonization of tissues; with continued application the tissues become dry and friable and can be curetted away and the process extended farther into the deeper parts. The result is an effective cooking of the structures in their own juices rather than the destruction by burning. The hot iron so long in use serves only as the purveyor of its own heat, which it radiates out into the tissues. Endothermy generates the heat by the concentration of the current at a point within the tissues.

The value of these several agents is that they are instantly, continuously and easily available at all stages of any operation, and, by their use as adjuncts, serve to sterilize, to check hemorrhage, to destroy malignant growths, to regenerate tissues infected with an old chronic inflammatory process, and to destroy small tumors—in short, to do all and more than could have been expected from localized, well controlled, momentary or prolonged application of heat, whether moderate or intense.

Avoiding the larger vessels, we can destroy rapidly in situ and at the same time sterilize any amount of diseased tissue visible on inspection and then, curetting this away, can continue the process in yet deeper and often otherwise inaccessible regions.

Specifically, with a simple portable machine and a switch and a needle held in a suitable handle, we can do many useful things as yet new in gynecology and do them far better than heretofore.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

Briefly to enumerate the several advantages and utility of endothermy, it is valuable:

1. In cleaning up a cancerous cervix either before inserting radium or before operation.

2. In exsecting a carcinoma of the vulva of whatever extent.

3. In destroying granuloma of the urethra and true caruncle.

4. In opening and then spraying the flame from the needle point so as to shrivel up the whole lining of a Bartholin's cyst or abscess; in destroying intra-abdominal, infected areas on the pelvic walls.

5. In treating a localized pruritus by destroying the superficial layers of skin or mucosa.

6. In the complete ablation of certain areas and structures with a stronger current in a more advanced pruritus or kraurosis. We have in this way cured an extensive old bad perineal and perianal pruritus in a case in which the only alternative was an exsection which threatened to compromise the function of the bowel.

7. In destroying cervical polyps.

8. In destroying carcinomatous glands on the pelvic floor or about the iliac vessels by puncturing each one with a fine needle in one or more places and throwing in momentarily a powerful current which sterilizes and destroys the gland, which is left innocuous and in situ.

9. In disseminated papillomas in the abdomen it is a sine qua non. Here one works with the utmost speed, literally striking all the little tufts or nodules out of existence in a second or two, saving time and hemorrhage and making much easily possible which hitherto has been impossible.

10. Superficial vulvar blemishes, warts and moles are quickly disposed of without hemorrhage and without suture.

One of the best fields is intravesical bladder tumors. With the patient in the knee-chest posture and the growth exposed through an open-air cystoscope of 10 mm. diameter, it is easy to penetrate the growth and the vesical wall slightly and to destroy a large area rapidly. If the tumor is pedunculate, the coagulation of the pedicle is the quickest way to destroy it. Indeed, all one has to do here is to see the tumor and stab it with a fine, sharp-pointed knitting needle, and then to lay the active electrode conveying the current in contact with the needle for half a minute or so. I prefer here to use a hard rubber speculum. All who are familiar with our previous methods will be most thankful for this new boon in this field. In cases in which there is a malignant growth the treatment must be followed up by radium, which now effects a cure in a large percentage of both the papillary and the infiltrating growths. As in all malignant conditions, the early cases are most amenable.

In all this work there is no manipulating the parts, or squeezing or crushing them, and there is a minimal use of artery forceps and ligatures with little sewing or little catgut left behind to catch and hold infection.

CONCLUSION

The endothermic conception is as positively and aggressively surgical as the time-honored scalpel, ligature and suture, and tends largely to replace the first two—for centuries the recognized badges of our profession. The fine point of the needle forms such an admirable, delicate, controllable instrument that it makes any surgical knife seem clumsy by comparison.

Its field *par excellence* is that of the malignant growth which, by and large, it covers more effectively than any older surgical method. The object is to destroy quickly by heat, within a defined area, all the suspected tissues by a perfectly controlled voltage and amperage.

We are all only too well aware of the awkwardness of putting one operation on top of another in the same area at a later date, and such secondary supplementary operations are rarely satisfactory or thorough on account of scar tissue and hemorrhage. By this new procedure there is no objection to a series of follow-up operations.

The value of this newer method, which we have tested for the last three years, is that it is quicker and more efficacious and in every way more attractive than our older procedures. It is a sort of long knife and fork manipulation which restrains the operator from direct contacts with the area under treatment. It dispenses largely with the time-honored but always objectionable ligature. With a mild antiseptic dressing the wound is cleaner and heals more quickly and it is usually far less painful. Hemorrhage is greatly lessened and controlled by applying the current to the vessel through the pointed forceps grasping it. *Experto crede.*

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ABSTRACT OF DISCUSSION

DR. GEORGE A. WYETH, New York: Recently Dr. William J. Mayo pointed out that only particles of molecular size, such as sugar, the amino-acids, and other crystalloids, are absorbed directly into the blood capillaries, while the colloids and particles of larger size are taken up by the lymphatics. He says that "bacteria and malignant cells do not pass directly into the capillaries, but are carried by phagocytes into the lymphatics, which are a closed system of vessels." To emphasize this point is to emphasize the danger of dissemination that lies in the severance of these lymphatics when the scalpel is being used, and the advantage which inheres in a method that seals these lymphatics instead of opening them. Today I am using three entirely different currents in this work. The profession is calling it surgical diathermy and is using but one current, which is the coagulating current. That is the small part of my work, which comprises also the use of lighter desiccating current for superficial growths and use of the endotherm knife or cutting current, which seals lymphatics as it cuts. The combined technic of coagulation and the endotherm knife obviates those two concomitants of scalpel surgery; namely, hemorrhage and shock. This method is not a cautery. It does not burn. It differs from all forms of cauterization and should not be spoken of as "the cautery." It is my endeavor either to remove the growth as dead tissue or to excise it, with the advantage of sealing lymphatics as I cut. With the cutting current a growth can be removed and then by undermining the skin, and using the coagulating current, one coagulates the glands in situ and leaves them there to be absorbed.

DR. GRANT E. WARD, Baltimore: Dr. Herman E. Pearse and I are doing work on the parenchymatous organs of dogs. As suggested by Dr. Kelly in his paper, we have coagulated small areas in the intestine and in the stomach and turned them in without opening the organ. These dogs are still alive and well. This is of value, of course, when treating multiple nodules in the abdominal cavity. The current we use in this experimental work is a very heavy one, combining both cutting and coagulation properties. We have been able to develop a current with a very high amperage and a relatively small spark gap and correspondingly low voltage so that the penetration is not deep, but the heat is chiefly developed near the point of application. We have excised portions of the kidneys, liver and spleen in fifteen or sixteen dogs, and have found that healing, as a rule, takes place by first intention, the layer of coagulum, from 1 to 2 mm. thick, being slowly absorbed and replaced by scar; we have not had secondary hemorrhage. We controlled kidney operations

by using the scalpel on one kidney and the electrothermic current on the other. On the side where the electrothermic methods were used from two to four sponges sufficed to absorb the blood. On the other side, where the excision was done with the knife or with the scalpel, from a dozen to fourteen sponges were necessary. All these operations were done without clamping the pedicle. The reason there is a little more bleeding in the kidney than in the other organs, we think, is that the arterial supply of the kidney is abundant. The blood in the liver and the spleen is largely venous, and that is checked with very little searing and very little deep coagulation. Healing is excellent and with a little more scarring than when using the scalpel; in fact, in one case is was difficult to tell at autopsy which kidney had been operated on with the scalpel and which with electrothermic methods without referring to the notes. We feel that with further work of this type we can develop a current permitting operations on parenchymatous organs with little shock and at the same time with little bleeding and good healing.

DR. HOWARD A. KELLY, Baltimore: My mind goes back many years to the time when Sampson of Albany was with me in Hopkins working on uterine cancer, cleaning out the glands of the pelvis, sometimes taking as much as five hours with a considerable mortality. Now, with an endothermy, we take out the uterus, note the enlarged glands, explode them out of existence in situ, and leave them without adding to the seriousness of the operation. When we take out a ragged, adherent carcinomatous mass and yet leave an area on the pelvic wall, it is a nasty thing to begin to dissect away; hence we also explode that area out of existence. Infected areas, too, can be sterilized.

PHYSIOLOGY OF EXTERNAL PANCREATIC SECRETION

VI. FURTHER STUDIES *

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In previous communications [1] it has been pointed out that the external pancreatic secretory response to a meal can be divided into two phases with reference to the sites at which the stimuli are acting: (1) the cephalic phase, and (2) the intestinal phase. A comparison of the amount of secretion produced during these two phases has shown that the intestinal phase is unquestionably the most important. A gastric phase was shown not to exist, since it was found that foods, and other possible excitants, when placed in the stomach failed to excite the pancreas to secrete.

The most important questions that confront any one interested in external pancreatic secretion are: 1. What substances acting in the intestine excite the pancreas to secrete? 2. What is the mechanism, or mechanisms, concerned in this excitation? 3. Do these mechanisms operate in normal digestion? 4. What is the effect of various disease conditions on the secretory activity of the pancreas?

INTESTINAL EXCITANTS OF EXTERNAL PANCREATIC SECRETION

It is now well established that many substances acting in the upper intestine excite the pancreas to secrete. They are water, carbonic acid solutions, various strengths of hydrochloic acid (one hundred and twentieth-normal to tenth-normal), various organic and inorganic acids, gastric juice, meat juice, bread, fat, fatty acid, soaps, alcohol, ether, chloral hydrate, and mild irritants such as mustard oil. Recently, bile has been added to this list, a discovery that was made by John Mellanby [2] and independently by us (Leuth and Ivy).

We have recently been devoting most of our efforts to the determination of the mechanism by which the various excitants function.

POSSIBLE MECHANISMS THAT MUST BE CONSIDERED

There are several mechanisms which one must consider in order to determine how any particular substance causes stimulation of the pancreas: (*a*) As suggested by Pawlow,[3] one must consider a local secretory reflex mechanism which may be excited by the contact of substances with the upper intestinal mucosa. (*b*) As suggested by Bayliss and Starling,[4] acid, and possibly other substances, acting on the intestinal mucosa cause the elaboration of a hormone, secretin, which is absorbed into the blood and carried to the pancreas, causing stimulation. (*c*) These substances may contain, or on digestion yield, secretagogues which stimulate by acting locally or by being absorbed into the blood. (*d*) These substances may affect the motility of the upper intestine, which, in turn, by reflexes or by a simple increase in blood flow, may stimulate the pancreas. (*e*) These substances may stimulate by causing bile to flow into the duodenum, which is known to stimulate the pancreas.

ACID STIMULATION OF THE PANCREAS

J. I. Farrell and I [5] have been successful in transplanting the tail of the pancreas of dogs subcutaneously beneath the mammary gland. In such animals we [6] have made a Thiry fistula of the jejunum. When acid (one hundred and twentieth-normal to tenth-normal) is applied to the Thiry fistula, the pancreatic transplant is stimulated (table 1). This occurs after ligation of the common bile duct and after atropine, which shows that it is not due to bile or gastric juice flowing into the duodenum. Further experiments [6] have been performed in which two 6 inch loops of jejunum and the tail of the pancreas were transplanted subcutaneously in the same animal. It was found that the application of tenth-normal to twentieth-normal hydrochloric acid to the intestinal transplant caused the pancreatic transplant to secrete. These experiments prove that, when acid is applied to the intestinal mucosa, something, perhaps a hormone, gets into the blood which excites the pancreas to secrete juice. Hence, we believe that a hormone mechanism for acid stimulation of the pancreas is proved.

BILE STIMULATION OF THE PANCREAS

John Mellanby,[2] using the cat, has shown that the introduction of dilute bile of an adequate reaction into

* From the Department of Physiology and Pharmacology, Northwestern University Medical School.

* Read before the Section on Gastro-Enterology and Proctology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

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4. Bayliss, W. M., and Starling, E. H.: The Mechanism of Pancreatic Secretion, J. Physiol. **28**: 61, 1903.

5. Ivy, A. C., and Farrell, J. I.: A Method for the Subcutaneous Autotransplantation of the Tail of the Pancreas, Am. J. Physiol. **77**: 474 (July) 1926; The Proof of a Humoral Mechanism for Pancreatic Secretion, Am. J. Physiol. **78**: 325 (Oct.) 1926.

6. Ivy, A. C., and Farrell, J. I.: The Proof That a Hormone is Concerned in External Pancreatic Secretion, Proc. Soc. Exper. Biol. & Med. **23**: 577, 1926; A Demonstration That a Hormone Is Concerned in External Pancreatic Secretion, Proc. Soc. Exper. Biol. & Med. **23**: 753 (May) 1926.

the duodenum stimulates the pancreas. His experiments have shown that the bile salts are the exciting agents. By ligating the pyloric sphincter, he ruled out the possibility that gastric juice might be the exciting agent, which is necessary because it has been shown that bile acting in the intestine stimulates gastric secretion.[7] Since the stimulation was not abolished by atropine and ergotamine, he concluded that bile stimulated the pancreas by causing the elaboration and absorption of secretin. However, it may be possible that a local nervous mechanism may exist that is not influenced by these drugs. In other words, the possibility that bile stimulates by a secretin mechanism is not proved by his experiments. He further suggests that bile is "the alimentary stimulus for pancreatic secretion."

TABLE 1.—*Response of the Pancreatic Transplant to Various Substances Applied to the Thiry Fistula*

Dog S. Pancreatic Transplant and Thiry Fistula of the Jejunum

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
2:30	3:30	1 hr.	Continuous secretion	0.34
3:30	4:30	1 hr.	Perfused with olive oil 1 hr.	0.36
4:30	5:30	1 hr.	Recovery	0.21
5:30	7:30	2 hrs.	Recovery	0.30
7:30	8:00	½ hr.	Perfused with tenth-normal hydrochloric acid for 10 min.	2.00
12:00	12:30	½ hr.	Continuous secretion	0.07
12:30	1:00	½ hr.	Continuous secretion	0.07
1:00	1:30	½ hr.	Perfused with olive oil	0.07
1:30	2:00	½ hr.	Recovery	0.02
2:00	2:30	½ hr.	Perfused with neutral olive oil digest	0.21
2:30	3:00	½ hr.	Recovery	0.12
3:00	3:30	½ hr.	Perfused with eightieth-normal hydrochloric acid	0.63
3:30	4:00	½ hr.	Recovery	0.18
3:45	4:45	1 hr.	Continuous secretion	0.28
4:45	5:15	½ hr.	Perfused with dog's bile	0.53
5:15	6:15	1 hr.	Recovery	0.63

TABLE 2.—*Response of the Pancreatic Transplant to a Meal Before and After Ligation of the Bile Duct*

Dog F. Pancreatic Transplant

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
Maximum six hour responses to a meal prior to double ligation of the common bile duct, each test being performed on different days.				
10:00	4:00	6 hrs.	Fed test meal at 10:00 a. m.	9.5
10:00	4:00	6 hrs.	Fed test meal at 10:00 a. m.	8.0
10:00	4:00	6 hrs.	Fed test meal at 10:00 a. m.	8.7
10:00	4:00	6 hrs.	Fed test meal at 10:00 a. m.	7.0
A maximum six hour response to a meal after ligation of the common bile duct, showing the response each hour for six hours.				
10:30	11:00	½ hr.	Continuous secretion	0.26
11:00	12:00	1 hr.	Continuous secretion	0.48
12:00	1:00	1 hr.	Fed test meal of meat at 12 (half lean and half fat)	0.60
1:00	2:00	1 hr.	Response	2.40
2:00	3:00	1 hr.	Response	1.80
3:00	4:00	1 hr.	Response	1.90
4:00	5:00	1 hr.	Response	2.10
5:00	6:00	1 hr.	Response	2.00
Total				10.8

We[8] have found that when bile is applied to the Thiry fistula of the pancreatic-transplant preparation, the transplant is stimulated (table 1) to secrete, but not invariably. If the flow of juice is rapid, bile so administered sometimes causes a decrease. The cause of the variation is not clear. The response is not as good as that observed from twentieth-normal hydrochloric acid application. Bile given by stomach tube stimulates, but not as uniformly as does tenth-normal hydrochloric acid. Depression of secretion is also sometimes observed in these experiments. Atropine was not used because we have found that in 1.5 mg. doses it abolishes, or depresses the response to twentieth-normal hydrochloric acid, which is a more potent excitant than bile. These observations show that bile stimulates the pancreas by a humoral mechanism. Whether the humoral agent is secretin or bile salts has yet to be determined. However, the former agent seems the more probable.

TABLE 3.—*Pancreatic Secretory Response to a Meal of Meat*

(Compare with table 4)

Dog T. Pancreatic Fistula

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
12:27	12:45	15 min.	Continuous secretion	1.8
12:45	12:57	15 min.	Meal of meat* at 12:50	5.2
12:57	1:12	15 min.	Response	7.3
1:12	1:27	15 min.	Response	10.0
1:27	1:42	15 min.	Response	12.0
1:42	1:57	15 min.	Response	11.0
1:57	2:12	15 min.	Response	13.0
2:12	2:27	15 min.	Response	14.1
2:27	2:42	15 min.	Response	11.0
2:42	2:57	15 min.	Response	11.2
2:57	3:12	15 min.	Response	10.1
3:12	3:27	15 min.	Response	7.4
3:27	3:42	15 min.	Response	9.3
3:42	3:57	15 min.	Response	11.1
3:57	4:12	15 min.	Response	11.0
4:12	4:27	15 min.	Response	9.0
4:27	4:42	15 min.	Response	10.1
4:42	4:57	15 min.	Response	9.2
4:57	5:12	15 min.	Response	9.2
5:12	5:27	15 min.	Response	4.4
5:27	5:42	15 min.	Response	9.6
5:42	5:57	15 min.	Response	8.7
5:57	6:12	15 min.	Response	9.1
Total for 5 hours and 12 minutes, 215.0 cc.				

* The meat was approximately half lean and half fat.

The possibility that a local nervous mechanism is operating in bile stimulation still exists. It cannot be satisfactorily ruled out by indirect experimentation. It should be pointed out, however, that at present physiologists have not devised a method for directly solving this problem.

TABLE 4.—*Pancreatic Secretory Response to a Meal of Meat with the Common Bile Duct Doubly Ligated*

Dog. B. Pancreatic Fistula and Common Duct Ligated

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
12:10	12:25	15 min.	Continuous secretion	3.6
12:25	12:40	15 min.	Continuous secretion	2.7
12:40	12:55	15 min.	Meal of meat* at 12:45	8.0
12:55	1:10	15 min.	Response	14.0
1:10	1:25	15 min.	Response	9.6
1:25	1:40	15 min.	Response	10.2
1:40	1:55	15 min.	Response	7.2
1:55	2:10	15 min.	Response	12.1
2:10	2:25	15 min.	Response	12.7
2:25	2:40	15 min.	Response	13.0
2:40	2:55	15 min.	Response	12.3
2:55	3:10	15 min.	Response	9.2
3:10	3:25	15 min.	Response	10.1
3:25	3:40	15 min.	Response	7.3
3:40	3:55	15 min.	Response	16.3
3:55	4:10	15 min.	Response	9.4
4:10	4:25	15 min.	Response	13.0
4:25	4:40	15 min.	Response	15.0
4:40	4:55	15 min.	Response	9.2
4:55	5:10	15 min.	Response	11.3
5:10	5:25	15 min.	Response	12.4
5:25	5:40	15 min.	Response	6.7
5:40	5:55	15 min.	Response	1.6
Total for five hours and fifteen minutes, 220.6 cc.				

* The meat was approximately half lean and half fat.

Is bile the alimentary stimulus of the pancreas in normal digestion? We[9] have attacked this problem by comparing the secretory response of chronic pancreatic fistula dogs to a meal of ground meat (half lean

7. Meyer, Jacob; Ivy, A. C., and McEnery, E. T.: The Effect of Cholecystectomy on Gastric Secretion, Arch. Int. Med. **34**: 129 (July) 1924.

8. Lueth, H. C., and Ivy, A. C.: Unpublished data; cited by Ivy, A. C.: Ann. Clin. Med. **4**: 798 (April) 1926.

9. Ivy, A. C.; Lueth, H. C., and Oldberg, E.: Unpublished data.

and half fat) with and without the common bile duct doubly ligated, and by comparing the secretory response of pancreatic transplant dogs to such a meal before and after common duct ligation. The results of such experiments show that the ligation of the common bile duct does not appreciably influence the response to such a meal (tables 2, 3 and 4).

We are forced to the conclusion that although bile does stimulate the pancreas of the dog to secrete, it is only an adjuvant and not an essential alimentary stimulating agent, the pancreas being adequately stimulated by food in the absence of bile.

FAT STIMULATION OF THE PANCREAS

Dolinsky and Damaskin [10] found that when olive oil is introduced into the stomach the pancreas is caused to secrete after a latent period of from three to five minutes. Pawlow [3] has stated that fat is an independent exciter of the pancreas, since the observed facts did not support the idea that the quick or preliminary, stimulation by fat was due to the rapid cleavage of fat into fatty acids and soaps. The delayed, or secondary, stimulation by fat has been shown by Babkin [10] and Fleig [10] to be due to a "secretin-like" mechanism set up by fatty acids and soaps acting in the intestine.

We [9] have performed numerous experiments in an attempt to determine how fresh olive oil stimulates the pancreas. I will list and briefly discuss our observations. Olive oil given by stomach tube to pancreatic fistula dogs frequently, but not invariably, stimulates

TABLE 5.—*Pancreatic Secretory Response to Olive Oil by Mouth* *

Dog T. Pancreatic Fistula

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
12:05	12:20	15 min.	Continuous secretion	2.8
12:20	12:35	15 min.	Continuous secretion	2.6
12:35	12:50	15 min.	100 cc. olive oil at 12:45†	2.6
12:50	1:05	15 min.	Response	4.5
1:05	1:20	15 min.	Response	6.2
1:20	1:35	15 min.	Response	4.4
1:35	1:50	15 min.	Response	3.4
1:50	2:05	15 min.	Response	3.2
2:05	2:20	15 min.	Response	2.6
2:20	2:35	15 min.	Response	3.2
2:35	2:50	15 min.	Response	3.5
2:50	3:05	15 min.	Response	4.3
3:05	3:20	15 min.	Response	8.4
3:20	3:35	15 min.	Response	3.2
3:35	3:50	15 min.	Response	3.2
3:50	3:65	15 min.	Response	2.2
			Dog C. Pancreatic Fistula	
2:00	2:15	15 min.	Continuous secretion	3.1
2:15	2:30	15 min.	Continuous secretion	3.2
2:30	2:45	15 min.	100 cc. olive oil at 2:35*	6.3
2:45	3:00	15 min.	Response	5.8
3:00	3:15	15 min.	Response	4.4
3:15	3:30	15 min.	Gave some water because of thirst	4.0
3:30	3:45	15 min.	Gave some water because of thirst	10.0
3:45	4:00	15 min.	Gave some water because of thirst	10.3
4:00	4:15	15 min.	Gave some water because of thirst	10.3
4:15	4:30	15 min.	Gave some water because of thirst	6.8
4:30	4:45	15 min.	Gave some water because of thirst	2.4
4:45	5:00	15 min.	Gave some water because of thirst	3.5

* Compare with table 6.
† Given by stomach tube.

the pancreas within a period of from five to ten minutes (tables 5 and 6). This is also true when olive oil is given by tube to dogs with a pancreatic transplant (table 7). Olive oil applied to the Thiry fistula fails to cause definite stimulation of the pancreatic transplant (table 1). Neutralized digested olive oil applied to the Thiry fistula causes stimulation of the transplant (table 1). Olive oil given by tube to pancreatic fistula dogs with the common bile duct ligated has failed, so far, to stimulate within fifteen minutes (table 6). A consideration of these observations along with the fact that bile stimulates the pancreas, although not uniformly according to our observations, leads one to the conclusion that the quick, or preliminary, stimulation of the pancreas by fat is secondary to a flow of bile into

TABLE 6.—*Pancreatic Secretory Response to Olive Oil by Mouth in a Dog with Common Bile Duct Doubly Ligated*

Dog B. Pancreatic Fistula; Bile Duct Ligated

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
11:48	12:03	15 min.	Continuous secretion	2.9
12:03	12:18	15 min.	Continuous secretion	3.2
12:18	12:33	15 min.	Continuous secretion	3.6
12:33	12:48	15 min.	Continuous secretion	3.3
12:48	1:03	15 min.	Continuous secretion	2.0
1:03	1:18	15 min.	100 cc. olive oil at 1:08	2.3
1:18	1:33	15 min.	Response	0.5
1:33	1:48	15 min.	Response	0.4
1:48	2:03	15 min.	Response	0.7
2:03	2:18	15 min.	Response	1.0
2:18	2:33	15 min.	Response	7.1
2:33	2:48	15 min.	Response	4.5
2:48	3:03	15 min.	Response	2.2
3:03	3:18	15 min.	Response	4.8
3:18	3:33	15 min.	Response	6.0
3:33	3:48	15 min.	Response	3.2
3:48	4:03	15 min.	Response	7.6
4:03	4:18	15 min.	Response	3.1
4:18	4:33	15 min.	Response	3.1
4:33	4:48	15 min.	Response	2.2
			Another Experiment on the Same Dog	
4:00	4:15	15 min.	Continuous secretion	5.0
4:15	4:30	15 min.	100 cc. olive oil at 4:20	4.5
4:30	4:45	15 min.	Response	3.5
4:45	5:00	15 min.	Response	13.6
5:00	5:15	15 min.	Response	11.9
5:15	5:30	15 min.	Response	6.5
5:30	5:45	15 min.	Response	10.0
5:45	6:00	15 min.	Response	4.7
6:00	6:15	15 min.	Respone	4.0
			Dog S. Pancreatic Fistula—Bile Duct Ligated	
11:32	11:47	15 min.	Continuous secretion	2.8
11:47	12:02	15 min.	Continuous secretion	3.5
12:02	12:17	15 min.	100 cc. olive oil at 12:05	3.0
12:17	12:32	15 min.	Response	4.3
12:32	12:47	15 min.	Response	5.3
12:47	1:02	15 min.	Response	10.3
1:02	1:17	15 min.	Response	3.1
1:17	1:32	15 min.	Response	5.5
1:32	1:47	15 min.	Response	3.3
1:47	2:02	15 min.	Response	4.7

the duodenum. We cannot draw such a conclusion with certainty, however, because of the variation in fat and bile stimulation of the pancreas. A statistical study of fat stimulation, and more complete knowledge of the variable factors in bile stimulation, is necessary.

DO THE FACTORS AND MECHANISMS MENTIONED FUNCTION IN NORMAL DIGESTION?

Whether or not the factors, mechanisms and results revealed by experiments function under normal physiologic conditions is a question that should be considered by every investigator. We believe that the fact that the flow of juice from the pancreatic transplant is augmented following a meal unquestionably proves that a humoral mechanism, secretagogues or hormone, for pancreatic secretion functions during normal digestion. It is also obvious that when acid is applied to an intestinal transplant with the result that the pancreatic transplant secretes, something, a hormone, gets into the blood which stimulates the pancreas. But it does not follow necessarily *a priori* that such a mechanism operates in normal digestion. At first it seems to follow that it does operate because acid chyme is ejected into the duodenum in the course of normal digestion. The fact has been pointed out, however, that the gastrectomized dog or man digests his food quite well; that achlorhydria does not usually cause marked digestive disturbances, and that the chyme is rapidly neutralized in

10. Cited by Pawlow (footnote 3).

the duodenum, the p_H of the duodenal contents varying from 3 to 8. The first two facts, however, do not show that an "acid-secretin" mechanism does not normally function: they show only that other mechanisms exist which function in the absence of acid chyme. The fact that the reaction of the duodenal contents is only slightly acid, or even sometimes alkaline, does not rule out the possibility that an "acid-secretin" mechanism normally operates, because it cannot be denied that there are brief periods of acid-chyme contact with the proximal duodenal mucosa, which when summed up may be sufficient to cause the production of a hormone. Mellanby,[2] finding that bile stimulates pancreatic secretion in the cat, attached much significance to this observation. That bile stimulates pancreatic secretion is significant, but our observations show that it is not the sole factor concerned and does not play an essential rôle, in the dog at least, as a pancreatic excitant. One must not forget that foods and their digested products, without the aid of bile and gastric juice, excite the pancreas when placed in the duodenum. The foregoing state-

TABLE 7.—*Response of the Pancreatic Transplant to Olive Oil Given by Stomach Tube*

Time From	Time To	Length of Period	Procedure	Secretion, Amount Cc.
			Pancreatic Transplant, Dog S	
10:26	10:41	15 min.	Continuous secretion	0.04
10:41	10:56	15 min.	Continuous secretion	0.04
10:56	11:12	15 min.	60 cc. olive oil at 10:59	0.21
11:12	11:27	15 min.	Response	0.16
11:30	11:45	15 min.	Response	0.20
11:47	12:03	15 min.	Response	0.28
			Pancreatic Transplant, Dog M	
10:30	11:30	1 hr.	Continuous secretion	0.10
11:30	1:30	2 hrs.	Continuous secretion	0.35
1:30	2:30	1 hr.	80 cc. olive oil at 1:30	0.60
2:30	3:30	1 hr.	Response	0.70
3:30	4:30	1 hr.	Response	2.80
4:30	5:30	1 hr.	Response	2.60

ments point out that numerous factors operating in the intestine excite the pancreas to secrete; that no one factor or substance is essential, and that some of these factors act by a humoral mechanism. The existence of other mechanisms, if they exist, and I believe they do, is yet to be proved.

WHAT IS THE EFFECT OF VARIOUS DISEASE CONDITIONS ON PANCREATIC SECRETION?

Since pancreatic secretion is the most important of the digestive secretions, it is obviously important to know the effect of various disease conditions on its secretory activity. Much is known concerning the effect of disease on gastric secretion, but little is known of the effects of diseases on pancreatic secretion. Practically no work of strictly experimental nature has been done, but numerous clinical observations have been reported. The lack of definite information is due experimentally to the great difficulty in working with chronic pancreatic fistula animals, and clinically to the lack of a good method of determination.

DYE ELIMINATION BY THE PANCREAS

We[11] are now engaged in an attempt to devise, or perfect, some method that will yield fairly accurate information concerning not only the quality, but also the quantity of pancreatic secretion in man. Most of our work has been directed toward finding a nontoxic dye which will be specifically eliminated by the pancreas; i. e., not by the stomach, intestinal mucosa or liver.

11. Work done by Oldberg and Ivy.

So far, we have tried thirty-three dyes; namely, acid blue, acid violet, acid orange, alkaline blue 6 B, aniline blue, alizarine blue S, china blue, Mendola's blue, patent blue, Poirrier's blue, pyrrol blue, trypan blue, neutral red, neutral violet, indigo carmine, Hofmann's violet, congo red, Bieberich's scarlet, bluish eosin, erythrosin, rose bengal, phloxine, orange G crystals, orange I, tropeolin O, tropeolin OOO number 1, tropeolin OOO number 2, thymol sulphonphthalein, methylene blue, toluidine blue, methylene violet, methylene azure I and azure II. Pancreatic fistula dogs were used, the pancreas being caused to secrete copiously with food and water. From 30 to 60 mg. of the dye, depending on its density, was dissolved in 25 cc. of physiologic sodium chloride solution and injected intravenously. The secretion was collected at fifteen minute intervals for several hours, and then at irregular intervals for twenty-four hours.

Only two of these dyes have appeared in the secretion. Methylene blue, which confirms Güchiro,[12] and methylene violet. Methylene blue after two hours gives a faint bluish tinge to the secretion. Methylene violet after two or three hours gives a moderately intense reddish violet color to the secretion. Methylene violet is somewhat toxic in the doses used, causing nausea and vomiting. It is not eliminated in the gastric secretion except in minute traces, but we have been able to detect it in traces in the gallbladder bile. We do not know whether or not it is eliminated by the intestinal mucosa. Its clinical use is not indicated because of its toxicity.

From these observations it is quite evident that the pancreas is highly selective in the elimination of dyes. For example, the stomach eliminated thirteen of thirty-five dyes used.[13] We propose to extend our observations decidedly on dye elimination by the pancreas.

303 East Chicago Avenue.

ABSTRACT OF DISCUSSION

DR. H. L. BOCKUS, Philadelphia: As far as I can gather, Dr. Ivy has established a humoral mechanism, and the continuous secretion of the pancreas seems to be dependent on this humoral mechanism. I should like to ask him again about the concentration of enzymes in this secretion. I am under the impression that he did not obtain much enzyme concentration in the humoral secretion, which is a point in favor of Pawlow's old idea that nervous stimulation produces a secretion richer in enzymes. I think it is particularly interesting that it is possible for the pancreas to secrete in the absence of hydrochloric acid or bile. There is evidence clinically of persisting pancreatic digestion in cases of complete biliary obstruction, which confirms Dr. Ivy's experimental work. Osler years ago said that more disparity exists between the physiologic importance of the pancreas and our ability to investigate its function than exists for any other organ. Unfortunately, that situation applies today unless Dr. Bassler can prove to us tomorrow that he has a method which will enable us to learn more about the pancreas clinically. I have been particularly interested in pancreatic function from a clinical standpoint. I have tried most of the known pancreatic tests. Unfortunately, there is no simple test of paramount value in the study of the routine case, although I have always favored the simple test of Dr. Einhorn. I am particularly interested in functional tests based on dye excretion. Even if a dye is isolated which is secreted exclusively by the pancreas, the enormous reserve of the pancreas may militate against the value of the dye as a

12. Güchiro: Excretion of Dyes by the Pancreas, Arch. f. Verdauungskr. **30**: 302, 1923.

13. Dawson, A. B., and Ivy, A. C.: The Elimination of Dyes by the Gastric Mucosa, Am. J. Physiol. **73**: 304 (July) 1925.

clinical measure of function. Even the study of liver function by the dye tests is of little value except in cases of advanced disease.

DR. ANTHONY BASSLER, New York: As far as the human work has gone with me, I have not been able to accomplish stimulation of pancreatic juice with water or with the usual common salts in solution of water. One can, however, accomplish stimulation from the distention of the duodenum by the injection of water or a water saline solution. I have not been able to accomplish the uniformity of stimulation with hydrochloric acid solution as with peptone. The recent work with sodium cholate solution that Mellanby brought out, a combination of the bile salts in solution and an artificial bile solution, in contrast with 5 per cent peptone and magnesium sulphate solution brought out recently by Martin, has rather suggested to me that a very prompt and satisfactory stimulation with the artificial bile can be obtained. In much of my recent work I have used human bile stimulation, that is, the bile taken from one individual and employing it as a stimulant in another. I also used ox bile and found that it was intensely irritating to the duodenum, and its use had to be discontinued. I feel that with the duodenal tube in situ and peptone solution it is easy to stimulate a perfect pancreas. The artificial bile salts in solution also will do this nicely.

DR. LLOYD ARNOLD, Chicago: I wish to discuss this paper from the standpoint of a bacteriologist, particularly one who is interested in public health and hygiene. It is beginning to be realized that the control of the endogenous bacterial flora inside the gastro-intestinal tract plays quite a rôle in the maintenance of health and also in certain susceptibilities to gastro-intestinal diseases. It has been found that the upper end of the small intestine is usually sterile so far as bacteria are concerned. No matter what the condition, if the upper end of the intestinal tract is alkalized bacteria are present in the duodenum that are usually present in the ileum and the cecum and the large intestine. In other words, the endogenous bacterial flora shifts tremendously. I am particularly interested in the pancreatic secretion, not from the enzyme content but from its potential alkalinity. Something is known about gastric secretion; something about the amount of acid that is attached to food, going into the duodenum. It is known that that is neutralized completely when it reaches the lower end of the jejunum, that all the acid is liberated and replaced by alkali. I should like to ask Dr. Ivy if he used a phosphate buffer solution. Would there be an increased alkaline content secreted when there was a demand for an increased alkaline secretion to neutralize entirely the buffer solution in the pancreas?

DR. A. C. IVY, Chicago: In answer to Dr. Arnold's question, I can only state that I have not tried such experiments; but I have previously reported on the response of the pancreatic transplant to different foods, fat (olive oil), lean meat, hydrochloric acid and cooked starch, and found that the secretion of the transplant was approximately the same to all of these foods. The assertions of Pawlow as to the specific response of the gastric and pancreatic glands to foods so far as enzyme content is concerned are based on inadequate evidence, because of an insufficient number of experiments and a lack of taking into consideration the physiologic variation of the animal from day to day to the same excitant. As Dr. Bassler said, the ox bile is quite irritating to the duodenal mucous membrane, at least in the dog, and, I should think, in man. With reference to the statement concerning the application of acid to the duodenum, it should be pointed out that it can be overdone, so that instead of getting stimulation one gets depression, which may explain some of the results with ox bile. With reference to a dye test, I have this idea in mind, to determine the elimination of the dye in chronic pancreatic fistula animals and to attempt to arive at some average elimination relative to the volume, and then having determined that, apply the information to tests on human subjects. Only time will show whether or not this idea will prove to be useful. In answer to one of Dr. Bockus' questions concerning the enzymes in the pancreatic secretion of the transplant, the data I have reported on that subject show that the enzymes are present in normal concentration. The pancreatic transplant does show a continuous secretion. The amount is very small. Whether it is due to the absorption of secretagogues from the lumen of the intestine, or due to the continuous production and absorption of a small amount of secretin, or whether it is due to the continuous blood flow through the pancreas, I cannot say.

FUTURE OF COUNTY HEALTH WORK IN THE UNITED STATES*

W. G. SMILLIE, M.D.
NEW YORK

Prophecy is hazardous. It is so much simpler to assemble our information, state what has occurred in the past, and allow each one to draw his own conclusions as to what will probably occur in the future. At times, however, certain facts stand out so vividly that we are forced to draw at least a tentative conclusion from our past experience and project the results of this conclusion into our future programs.

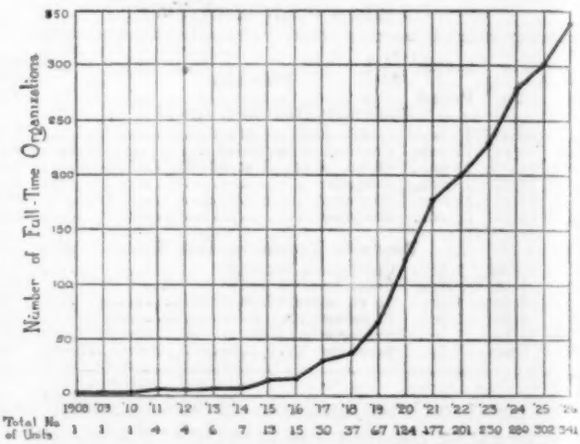

Chart 1.—Number of full-time county health organizations operating on December 31 for the years 1908-1926, inclusive.

In considering the growth and development of county health work in the United States, certain facts stand out which are acceptable to all—a common ground on which our thesis may be built. Every one is agreed that local full-time health service in the United States with the county as the administrative unit has passed the experimental stage and is now established on a firm basis. Dec. 31, 1926, there were 341 county health units in the United States, scattered through thirty-four states. The system of local government in the New England states is established on the township rather than the county basis, so that it is not a simple matter to develop a local health organization in these states on county lines. Nevertheless, such an organization has been established in Massachusetts, with satisfactory results. Excluding New England, there are only nine states that do not possess some full-time county health units; namely, Nevada, Idaho, North Dakota, Wisconsin, Michigan, Nebraska, Indiana, Delaware and New Jersey. In some of these states, legislation is now pending which will give the county governments necessary permission to organize their health work on a local full-time basis.

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* From the Rockefeller Foundation.

† Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

The advantages of full-time local health service are so obvious and so outstanding that it is remarkable that this type of health work has been embodied so recently in the body politic. It is generally agreed that it is as much the duty of the government to protect the physical welfare of the people as to protect property. It is also the duty of the government to assure growing children an opportunity for satisfactory physical development, as well as for mental development and instruction. Thus, the county health work should become as much a part of the county government as the police system or the county school system. Usually, such a health department is directed by a physician who is trained in public health methods. He is advised by a local board of health which has the appointive power. This organization is comparable to the school system in most states. The nucleus of workers that is required to carry out the normal functions of public health in a county unit consists, in addition to the health officer, of a public health nurse, a sanitary inspector, and a secretary. This is usually called the "standard unit." It may be expanded as, for example, in one county in California which has more than a hundred county nurses. In some states the county health officer has been given supervision over all municipal as well as rural health activities; in others, the municipal health authorities are autonomous. Probably the most important contribution of the county health unit has been that it has developed a health service for smaller towns and for rural communities.

The development of full-time local health service depends in great part on the interest and support given by the state health department. In some states, 30 per cent of the county health budget is supplied from the state health budget. It has been generally agreed, however, that a successful county health unit must receive substantial local official support, 50 per cent or more of the expenditures being met from local taxation. It follows that the economic status of a county will have a large influence on the development of local health work. The important economic factors affecting the establishment of local health service are the total population of a county, its accessibility, and the per capita income. One may make a general statement that a county having a population of 25,000 or more, with an annual per capita income of $400 or more, and a density of from 25 to 50 persons per square mile, will be able to support readily a full-time unit with a minimum personnel of four workers. Let me show how I have arrived at this conclusion.

County health work on a full-time basis began its real growth in 1918. The steady increase in the number of county health units from year to year is shown in chart 1. The county health units were, at first, more numerous in the Southern states, but as this type of health organization has become more popular, it spread to all parts of the United States and into Canada. The distribution of full-time county health units, Dec. 1, 1926, is shown in chart 2. It will be noted that there is an irregularity of distribution of the health units in the various parts of the United States. This is due, in some areas, to the fact that the development of county health units has not yet received a strong stimulus from the central organization. But even in those states in which the state boards of health have had an active program for the development of full-time local health service over a period of ten years, there is an irregular distribution of county health units.

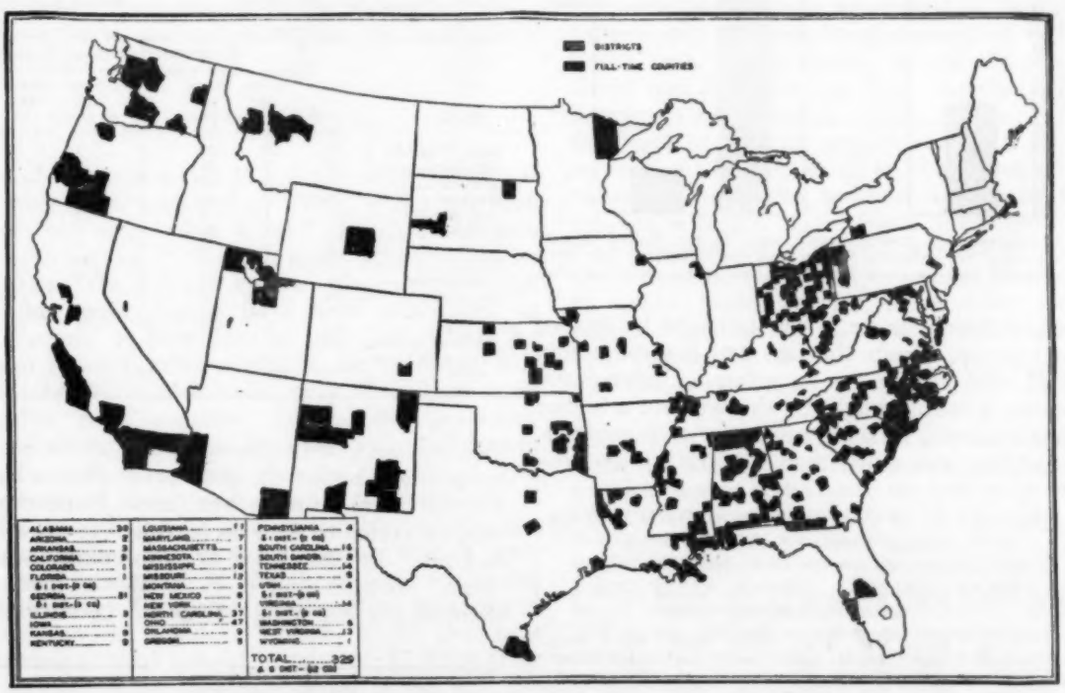

Chart 2.—Distribution of full-time county health units, Dec. 31, 1926.

TABLE 1.—*Economic Status of Counties*

Status	Total Income
Best	12 million plus
Good	5 to 12 million
Fair	2 to 5 million
Poor	Less than 2 million

The most important factor in this distribution is, I believe, an economic one. The Crowell Publishing Company has compiled in "The National Market" an analysis of the economic status of each county in the

United States for the year 1926. The counties are divided into four groups as shown in table 1.

A quartile was arranged of all counties in the United States. Correction was then made, the two further factors (1) standard of living and (2) accessibility being considered. In case the standard of living was

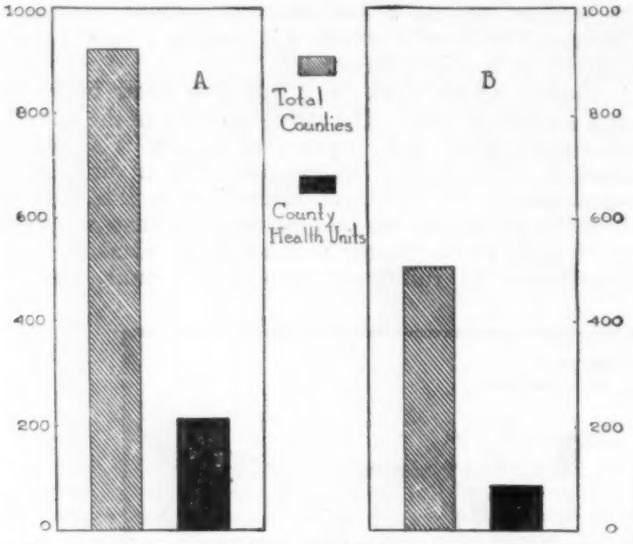

Chart 3.—Development of county health units in the United States: *A*, ten states having had program for at least ten years, 23 per cent; *B*, ten states having had program for about five years, 14.8 per cent.

low or the population sparse, a county might be thrown into a lower group, despite the fact that it came within the limits of total income for its group. Under opposite conditions, a county might be thrown into a higher group. For example, in some of the western counties, the total income was more than $2,000,000 and the

TABLE 2.—*Development of County Health Units in Relation to Economic Status of County*

Ten states with county health unit program over period of ten years

State	Economic Status of County: Best — Number of Counties	Best — Number of Units	Good — Number of Counties	Good — Number of Units	Fair — Number of Counties	Fair — Number of Units	Poor — Number of Counties	Poor — Number of Units
Ohio	85	49	3	0	..	..	..	..
Kentucky	28	5	48	3	34	1	10	0
Virginia	22	10	42	4	29	1	7	0
North Carolina	30	21	36	7	23	4	11	1
South Carolina	8	5	18	7	18	4	2	0
Georgia	14	11	39	8	54	3	53	0
Alabama	11	11	18	9	32	6	6	0
Tennessee	14	6	39	7	28	1	14	0
Mississippi	14	9	27	5	25	4	16	1
Louisiana	11	2	35	7	13	0	5	1
Total	237	129	805	57	256	24	124	3
Per cent of counties with health units		54		18		9		2

standard of living high, but the population was scattered over such a large area that the counties would be thrown into the "poor" rather than the "fair" group.

Using this classification as a basis of the economic status of the various counties in the United States, I have summarized the economic status of those counties that have established full-time local health service. Ten states were chosen in which the state health department had been actively sponsoring county health units for about ten years, and another group of ten states was chosen in which a program over approximately five years had been in effect. The results of this summary are shown in chart 3. The states having fulfilled a ten-year program possess a total of 922 counties. Of these counties, 213, or about 23 per cent, have health units. The ten states having completed a five-year program possess 566 counties with eighty-four county health units, or about 14.8 per cent organized on the full-time basis.

When these organized counties are separated into four groups according to their economic status, it will be seen (table 2) that full-time health units have been established in great part in those counties having a high economic status. Thus in Alabama, for example, all the "best" counties are organized, and one half of the "good" counties have health units. But only one fifth of the "fair" counties have health units, and none of those classified as "poor" have a full-time county health department. This distribution of full-time health units

TABLE 3.—*Development of County Health Units in Relation to Economic Status of County*

Ten states with county health unit program over period of five years

State	Economic Status of County: Best — Number of Counties	Best — Number of Units	Good — Number of Counties	Good — Number of Units	Fair — Number of Counties	Fair — Number of Units	Poor — Number of Counties	Poor — Number of Units
West Virginia	27	10	20	3	7	0	1	0
Oklahoma	16	7	38	2	19	0	4	0
Missouri	16	6	44	5	35	1	10	0
Kansas	24	3	23	3	33	3	25	0
New Mexico	1	1	4	1	2	1	24	5
California	35	9	10	0	7	0	5	0
Utah	4	2	2	0	5	3	18	2
Oregon	7	2	11	1	9	2	9	0
Washington	14	5	16	1	7	0	2	0
Maryland	20	5	3	1	..	..	..	..
Total	164	50	171	17	124	10	107	7
Per cent of counties with health units		30		10		8		6

in accordance with the economic status of the county holds true whether the state program has been in effect for five years or ten years (table 3 and chart 4). The only exception to the general rule is in New Mexico and in Utah. In Utah there are two county health units in "poor" counties and in New Mexico five. But these counties are classified as "poor" because of inaccessi-

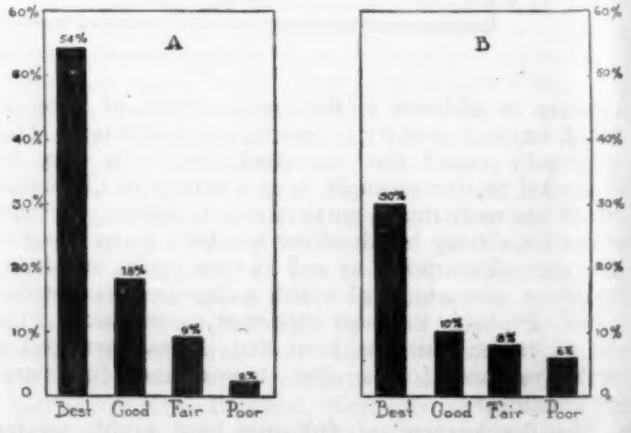

Chart 4.—Development of county health units in relation to the economic status of the county: *A*, ten-year program, 1916-1926; *B*, five-year program, 1921-1926.

bility and scanty population. The standard of living in these counties is relatively high, averaging $2,349 annual income per family.

A summary of the economic status of 297 counties in twenty states having full-time county health units shows the distribution given in table 4.

Table 4 shows that 85 per cent of the county health units in twenty states have been established in counties with a high economic status; e. g., counties having a total annual income of more than $5,000,000 (in 1926). Since the usual county health unit budget receives about $5,000 from official county funds, one may estimate roughly that about $1 of county funds out of each thousand dollars of total annual income has been spent for the purpose of maintaining a county health unit. One is justified, therefore, in the conclusion that a county with a population of 25,000 or more, a total annual income of from $5,000,000 to $10,000,000, and a density of from 25 to 50 persons per square mile will be able to support a full-time county health unit.

TABLE 4.—*Distribution of Full-Time County Health Units*

Economic Status	Distribution of Health Units in Twenty States, on the Basis of Economic Status	Distribution of all Counties in Twenty States, on Basis of Economic Status
Best	60%	27%
Good	25%	32%
Fair	11%	25%
Poor	3%	15%
	99%+	99%+

Table 4 also indicates that in sparsely settled areas, or in areas with a low standard of living, it has not been found possible to develop a well rounded full-time county health service if this unit must be dependent on local support. Only 3 per cent of the county health units in the twenty states have been established in "poor" counties. If New Mexico and Utah, where the standard of living is relatively high, are excepted, it is found that of 282 health units, only three have been established in "poor" counties. Is it not then justifiable to conclude from these data that the full-time county health unit, with a medical director in charge, and receiving most of its support from county sources, is not, at the present time at least, a feasible organization for a county with a low economic status; that is, with a total annual income of $2,000,000 or less? Is it not a hazardous policy for a state health officer to sponsor, or to encourage, a "standard" county health unit in a county having a total annual income of $2,000,000 or even $3,000,000, when past experience shows that the unit is almost sure to fail because of inability of the county to support it?

Yet the state health officer cannot ignore the poorer counties. Practically every one is agreed that each prospective citizen of the state shall have at least a minimum standard of opportunity for healthy physical and mental growth, and it is also agreed that it is the duty of the state to develop an adequate health service for backward communities as well as the more prosperous and fortunate ones. Different states are attempting to solve the problem of a satisfactory and adequate full-time local health service for sparsely settled areas, or areas where the per capita income is low, in a variety of ways. Virginia and Tennessee are testing out the plan of full-time local sanitary inspectors in rural counties. Several states are sponsoring the plan of part-time medical health officers and full-time nurses. Still others are attempting a district plan whereby two or more poor counties fuse their resources and with the aid of the state health department develop an adequate program with a full-time personnel. Utah, Florida, Pennsylvania, Georgia and Virginia all have organizations of this type. In a few states a plan is being formulated whereby the state will furnish 60 or even 70 per cent of the total county budget in the poorer counties, while in the more prosperous ones the state contribution may be limited to 25 per cent or less. The significant feature of this work is that the general principle of full-time local health service is accepted as the most efficient method of approach, and it remains only to develop a plan or modify the present organization, so that it will meet the needs of local health conditions and at the same time not exceed local resources.

The future is bright for further development of full-time county health organizations. The pioneering stage has passed, methods have improved, personnel has been developed, and a slow, steady increase in the number of units has occurred each year. This development has followed sound economic policies. Future growth will be even more selective. In the twenty states that I have chosen as representative, and which have already developed 282 county health units, there are at present 877 counties that may be classed as "strong" counties, fully capable of maintaining a standard, full-time county health unit. Undoubtedly, within the next few years many counties that are now classified as "fair" will improve their economic status to such an extent that they will be able to support locally a full-time health service. At least from 10 to 15 per cent of the counties of the United States, however, are unable at present to support a health unit with a minimum personnel of four, directed by a trained medical health officer. If these counties are to receive even a minimum standard of public health service, some other plan than the present "standard" full-time county health unit must be developed for them.

61 Broadway.

ABSTRACT OF DISCUSSION

DR. W. K. SHARP, Nashville, Tenn.: In discussing the future of county health work, the interest of the state health officer must be considered first. If he is not interested in this program, we are wasting our time. The next most important thing is to secure the cooperation of the state and county medical societies. The program must be explained in detail, what a county health department is and what it does, and let the medical society understand that we are depending on them for leadership. If we expect to build county health departments as they should be built, we must get the physicians on our side. The next most important step is to secure adequate funds for the state to assist the counties financially. Going into a county and making a so-called demonstration for a few years, and then withdrawing state, federal or other aid is as foolish as it is for the federal and state governments to build a highway and say after five years, "Well, we have made our demonstration and we are going to take up the highway and let you go back to the old way of doing business." Unless provision is made for the state health department to cooperate with at least from 40 to 50 per cent of the budget, it will be difficult to organize the counties, especially the poorer rural counties. After a few years the state should begin to withdraw and in some of the counties this can be done where the county will assume from 60 to 70 per cent of the budget; but the state and agencies cooperating with the state should always continue financial cooperation, and in addition to this, furnish expert supervision. Unless this is done, it is a waste of time to establish a county health department. The federal government should cooperate in an advisory and financial capacity with the state, and the state with the county. The responsibility should finally rest with the county. There has been too much of this business of demonstrations and withdrawing of funds. The county should be made to understand from the beginning that this is a business proposition, just like building roads or providing funds for schools or anything else for the county. When they understand this, and the state is in earnest in cooperat-

ing in both a financial and an advisory way, there will be no trouble getting the money. In Tennessee the legislature recently made provision to take care of fourteen counties that are already organized, and appropriated funds to develop eight or ten more counties. I believe that when the county assumes responsibility for a well rounded out program, there will be no trouble to build county health units at a rapid rate. There should not be so many specialized agencies working on tuberculosis, trachoma, goiter or malaria. All should work to one common end, to have a full-time health department which will carry on a well balanced program, carrying on all the health activities in the county.

DR. L. W. CORBETT, Goldsboro, N. C.: The present and future of county health work can be advanced if the cooperation of all county and municipal divisions and all charity organizations and philanthropically minded people in the section is elicited, their cooperation being secured through a substantial donation. In Goldsboro the state board of health contributes, along with the city schools, the county schools, the towns of Mount Olive and Fremont, Wayne County, and the community chest. Under this system a large percentage of the influential citizenship is directly connected with the work of the health department through one or another of these contributions. It follows, then, that they cannot but be boosters for our work. They are sold on it. They are forced to learn something of the benefits of the county health department; and once the public has been taught these benefits, the future of the health department is assured. In county health work, every organization that takes part in the program feels that it is their department They are boosters instead of knockers. If one wants to put the thing across one cannot overlook any agency in the county. Perhaps the hardest agency to interest is the local county medical society. Just as soon as the society can be made to realize that the health department is, in a measure, the liaison between the public and the profession, the society will be behind you man for man.

DR. LESLIE LEON LUMSDEN, Washington, D. C.: I am not so much interested in the early history of county health service as I am in its future history, but I hope Dr. Smillie will tell us what was the first whole-time county health department. He mentioned one existing in 1908. For many years I have been under the impression that the first full-time county health department was established in Yakima County, Washington. It went into operation, July 1, 1911. Some assert that Jefferson County, Ky., established the precedent. I have had considerable correspondence with the state and county officials about this, but I have not obtained any evidence that the organization in Jefferson County in 1908 or within ten years thereafter was strictly in the nature of a full-time county health department. I understand that the Jefferson County claim is based mainly on a statement in the annual report of the county health officer that the multitudinous duties of his office were such as to take up all his time. If he had been a whole-time officer under contract, he probably would not have made such a statement. I am sure that all who have had contact with developmental activities in this field are interested in the economics of county health work. The poor county presents a difficult problem. The poor county, as a rule, needs health work more than the wealthy county. The commissioners of the poorer counties usually think they cannot afford to appropriate a reasonable amount of money for health service, although they are appropriating quite liberally for roads, schools and other important purposes. I was in a county some time ago where the authorities stated at a meeting that they could not afford to appropriate a few thousand dollars for health service. I had traveled over 40 miles of recently constructed paved road in that county to attend the meeting. They found money to build roads at a cost of $30,000 a mile, but with respect to health service they had to be "economical." The county sanitary officer for the actually poor county offers many practical advantages. They can render the first essentials of health service. It is exceedingly interesting to find that a layman, after a short course of practical instruction, can accomplish more in actual, tangible sanitation in a few months than the average county health department with two or three sanitary inspectors in some instances accomplish in a year. The district plan of combining two or three counties under one health officer is feasible in some situations.

DR. JOHN A. FERRELL, New York: Health authorities are endeavoring to extend county health work to serve the entire state. Naturally, the fairly prosperous counties were the first to provide for it. Although I am fully aware of the present difficulties of raising money for any purpose in many poor counties, I am not prepared to concur in predicting that the future will fail to reveal a solution of the problem. In the usual county health organization the field staff is composed of the medical health officer, the public health nurse and the sanitary inspector. If a county is financially able to employ only one person, I should favor the health officer; if it can have only two I should add the public health nurse. I fully realize the value of a capable layman trained as a sanitary inspector in building sanitary privies, in controlling the breeding of disease-carrying mosquitoes, in inspecting dairies, markets, food handling, etc., and regard it as unfortunate for any community not to have one. However, the field of preventive medicine and public health is exceedingly broad and requires a background of training which the lay inspector has not had. Moreover, the public health nurse with her hospital experience, contact with disease, preventive measures, personal hygiene, infant and child care, etc., is not prepared to deal with problems in epidemiology and the control of communicable diseases. From the standpoint of preparation for work in the entire field of public health she ranks next to the medically trained health officer. A nurse or inspector, it is true, can be employed for from $1,500 to $2,000 a year, whereas the medical health officer usually receives at least $3,000. Travel in all cases will cost the same. Including automobile, it usually amounts to from $50 to $75 a month. If a county is financially unable to arrange a $6,000 yearly budget and have two field workers, then I believe it should employ a medical health officer whose training qualifies him for the entire field, even though to do so will require $100 a month more than will be necessary to have a nurse or inspector. A compromise which has gained considerable support involves the employment of a medical health officer for two or more counties, and one nurse for each county.

DR. W. G. SMILLIE, New York: The success of the full-time county health unit plans in various parts of the United States has created an interest in this type of health organization in Canada. During the past year the province of Quebec has established four full-time county health units and plans for similar organizations are being formulated in several other provinces.

Dangers of Specialism.—There is danger in specialism, it is freely admitted. Specialism is still in process of evolution. Many specialists are such in name only, a name often self-assumed. Many are narrow. Many, poorly prepared, lack broad experience and proper graduate study. They are often more concerned with technic than with diagnosis or indication for treatment. Some are offensively commercial. But in the future one type of clinician will be the well qualified specialist. He will not be readily available; a man as considerate of his fellow practitioner's reputation and comfort as he is of the patient's pocketbook. On him must lean heavily the practitioner, incompetent to treat certain diseases, and trained to admit his incompetence. The relation between specialist and general practitioner must be more cordial and cooperative than now; they must not be rivals but colleagues, mutually helpful. There may well be some open apportionment of the fee that will do away with the present unfair practice by which the general practitioner is inadequately paid unless there is some secret splitting of fees which is essentially dishonest and not to be countenanced. The result of this partnership will inure to the benefit of the patient, who, in spite of some of our medicine-as-a-trade advocates, is the prime consideration. The moment we fail to keep the ideal of benefit to the patient before us, practice will degenerate and will be in essence dishonest.—Herrick, J. B.: *California & West. Med.* **27**:183 (Aug.) 1927.

ENEMAS

SOME OF THEIR USES AND ABUSES *

LOUIS J. HIRSCHMAN, M.D.
DETROIT

The employment of irrigating solutions by man to flush out the lower bowel dates back to the darkness of antiquity. It is a natural method of cleansing the bowel. In the animal world certain long-necked birds have often been observed dislodging impactions by the use of water forced into the rectum through the beak.

The fact that an immediate sense of relief is experienced by an individual whose lower bowel has been freed of an amount of retained fecal matter by means of an irrigation has been recognized by the medical profession for centuries.

There have been periods in the last few years in which the employment of enemas of varying composition, not only by physicians but also by others, has gone to ridiculous extremes. The laity, in fact, has been extensively circularized by manufacturers of rectal irrigating apparatus, and booklets describing methods of treatment for many diseases have been sent out broadcast.

Quite a number of physicians as well as nurses, masseurs and hydrotherapists have been administering "colonic flushes," "bowel irrigations," "internal baths" and enemas under various other names to a large number of patients suffering from a great many diseases.

Realizing full well that many symptoms of a more or less remote character are caused by absorption from retained fecal material, the proponents of hydrotherapy have advocated enemas for the relief of every type of disease. There are so many fields of usefulness for properly administered enemas, it is a pity that overenthusiasm on the part of some physicians has carried the flushing of the lower bowel to a ridiculous extreme.

Enemas of suitable composition are properly employed not only for cleansing purposes but also as a means of administering either heat or cold for purposes of increasing or reducing intra-abdominal temperature. They are also used for the outlining of the bowel in radiography. Other uses are to supply food and drink to those who are unable to receive them by mouth.

The relief of abdominal distention by the removal of intestinal gas, the dissolving of impacted feces, and the administration of germicidal solutions, demulcents, astringents, parasiticides, stimulants, acids, alkalis, salines and other substances are all legitimate uses of enemas.

Many physicians in ordering a routine enema for a patient thoughtlessly order one containing soap-suds. The mucous membrane of the rectum is intolerant to any liquid that contains even a small amount of an irritant. Soap-suds even well diluted is irritating to all mucous membranes, be it of the conjunctiva or of the colon.

The proctoscopic appearance of the lining of the rectum in a normal individual after a soap-suds enema as compared to that after a sodium bicarbonate or a saline enema is very marked. Many patients have had a diagnosis of proctitis after a soap-suds enema has been given to prepare the patient for proctoscopy, because the mucous membrane presents an angry red appearance, while after a sodium bicarbonate or even plain water enema a very slight deviation from the pearly pink of normal mucous membrane appears. It is therefore suggested that a 1 per cent sodium bicarbonate enema be used as a routine instead of the irritating soap-suds. The addition of a slight amount of sodium bicarbonate to the water is of great assistance in removing mucus from the bowel.

I cannot be too emphatic in deprecating the use of the hard rubber or glass enema tip as well as the rectal tube in giving enemas. Every proctologist can report many instances of injuries sometimes of a serious nature to the anal canal and structures higher up from the use of enema tips made of resistant material.

In my practice, in a number of instances, lacerations followed by ulceration and infection have been caused by the forcible insertion of enema tips made of hard rubber or glass, and in the latter instance a small chip or crack causing a rough surface has produced severe lacerations.

In several instances the enema tip has become detached from the rubber hose and has become lodged in the rectum, traumatizing it. Its presence has acted the same as any other foreign body and it has been necessary to anesthetize the sphincter to remove the contained enema tip with instruments.

In my practice, several cases of ulceration have been observed which have required operative procedures for their relief. The misguided efforts of orderlies, attendants, nurses and even physicians to introduce a straight hard enema tip into a curved, sensitive and often diseased canal has been responsible for numerous cases of anorectal injury.

All of this can be avoided by the use of an ordinary soft rubber urinary catheter. The caliber should range from a number 20 to 24, French scale.

When a catheter is mentioned, a catheter is meant, not a rectal or colon tube, which is so often employed for this purpose. Practically all of the rectal and colon tubes have an aperture at the distal end. The rim of this aperture, even though made of rubber, is sufficient to impinge on diseased and ulcerated tissue and further traumatize the anal canal.

Sometimes the introduction of a rectal or colon tube, even though well lubricated, is so painful that the patient will not allow its insertion. The ordinary urinary catheter having a conical tip and its aperture or eye just behind this on the side of the catheter adapts itself readily to the curvature of the anorectal canal. When well lubricated it is introduced with great ease and comfort to the patient, even right after operation. The outer end of the catheter can be slipped over the ordinary enema tip, which forms an excellent connector to the rubber tube connected with the enema container.

The type of lubricant used is of some importance. A water soluble lubricant made of gum tragacanth or Iceland moss is the best. If the patient is not to be operated on there is no objection to the use of petrolatum.

A greasy substance, however, is injurious to rubber and also makes it a little more difficult to cleanse the part before an operation. The same applies to olive oil or other like substances. Glycerin should never be used if there is any reason to suspect any raw surfaces or irritations. Nor should soap-suds be used, for the reason mentioned.

The lateral, or Sims, position is the most convenient one for both the nurse and the patient in the administration of enemas. In this position, the parts can be seen and the weight of all the abdominal viscera is away from the lower bowel, so that there is no obstruction to easy entrance of the enema. If the patient lies in the

* Read before the Section on Gastro-Enterology and Proctology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

lithotomy position with the knees flexed there is a tendency to strain and resist the enema which is absent when it is administered in either lateral position.

In spite of all that has been said or written on the subject, one still hears too much of "high" and "low" enemas from nurses and physicians. One would think that these questions had been settled, after radiographic studies showed definitely and conclusively that it is impossible to pass a rectal tube or a catheter into the sigmoid flexure without the use of a proctoscope or a sigmoidoscope. That these rubber tubes coil up on themselves in the rectal ampulla does not seem to have impressed itself on a surprisingly large number of members of both professions.

The use of opaque enemas in radiographic studies of the colon has conclusively shown us that a pint of fluid will pass from the anal canal to the cecum often in one minute. This is as high an enema as any one could desire. A quart of sodium bicarbonate is quite sufficient in the vast majority of cases to relieve the colon of retained feces.

If the feces have become hard or impacted, hydrogen peroxide in the proportion of one part to two or three of warm water will disintegrate practically any impaction. Peroxide enemas are far more efficacious for removing an impaction than oil, glycerin or oxgall.

The use of turpentine to stimulate the expulsion of flatus is unnecessarily severe on the patient. One can secure far better results from the gentle astringent and stimulating effect of a 6 per cent solution of powdered alum.

The flushing of the colon with gallons of water, either plain or medicated, has been greatly overdone in recent years. This large quantity of water not only distends the bowel but causes hyperemia and also removes all the mucus, which is nature's normal intestinal lubricant.

When physicians, nurses and physical therapists dilate on the enormous quantities of mucus which their colonic flushes always produce, it is evident that they are led astray by nature's protest at their intestinal insults.

The eye will tear and the nose will run when irritated, as will the most important canal in the world—the alimentary.

While the mucous membrane of the bladder is tolerant to watery solutions, that of the bowel is not nearly so. Fluid stools or any other fluid produces very prompt reaction in the shape of excessive peristaltic activity.

The lower bowel is normally a strong cylindric muscle. This muscle, in order to retain its normal tone, must receive its daily exercise. This is produced by normal dilation by a sufficient amount of residual material in the stool.

Quantities of fluid are a poor substitute for solid material on which the bowel muscle should contract. Regular irrigations, by washing out the mucus, irritate the mucous membrane and rob the intestinal muscle of the normal stimulus for normal defecation. Constipation and obstipation can never be cured by enemas or bowel flushes.

The indicated hygienic, dietetic, calisthenic, mechanical and surgical therapeutic indications must be met by properly selected methods of treatment. The legitimate field for enemas, irrigations or flushes is in the treatment of bacterial or parasitic conditions.

Diseases such as ulcerative colitis and proctitis or amebic dysentery are good examples of these classes. Astringent enemas are of great service also in the treatment of hemorrhagic conditions of the rectum and the sigmoid which have been produced by dietary disturbances or metallic poisoning. In some cases of multiple colonic polyposis a 6 per cent enema of salicylic acid has produced a tanning effect on the pedicles of small polyps, causing them to atrophy and be expelled.

Saline, alkaline or dextrose enemas are of great value in the treatment of acidosis, particularly of postoperative type. The rectal drip is, of course, a very valuable means of providing fluid in the postoperative care of serious surgical cases. There is really no good therapeutic reason for the employment of milk, molasses, starch and other kitchen necessities in enema solutions.

The use of the opaque enema containing barium or bismuth salts in the fluoroscopic examination of the colon is of course just as much a diagnostic standard as the use of the ophthalmoscope, stethoscope or proctoscope.

Before the use of enemas, irrigations or colonic flushes is resorted to in the treatment of what is apparently obstinate constipation, a fluoroscopic examination of the colon is advised. The observations in patients who have had pelvic or abdominal inflammatory conditions, stormy confinements or previous abdominal surgical operations will often point to definite adhesions causing obstipation.

The use of any sort of colonic flush in these cases will be merely palliative and of no permanent benefit to the patient. The use of watery solutions for cleansing the bowel has a distinct and valuable place in the practice of medicine. Enemas should be administered in a safe, careful and correct manner in order to be of the greatest value.

The present tendency in some quarters to run riot on the subject of colonic flushes should be checked, or the abuse of a well recognized procedure may leave behind a trail of woe which will take a long period of reeducation to overcome.

Kresge Building.

ABSTRACT OF DISCUSSION

DR. G. S. HANES, Louisville, Ky.: The information possessed at present relative to the rôle the colon and its terminal extremity play in health and disease is lamentably meager. This subject has been of little interest to most original observers and best trained men in our profession. We have anchored our responsibilities for careful and scientific study of the colon to laxative and purgative drugs. I am sure there is not one who has not on numerous occasions advised the use of purgatives with no conception of the injurious effects resulting therefrom. The shelves in drug stores are laden with purgatives and laxatives which are taken in overwhelming quantities with the single purpose of forcing the intestinal contents through the bowel, regardless of the evil consequences that may follow. The chief objection to enemas is the fear of the habit. This can be easily overcome by slightly reducing the amount injected each day. Dr. Hirschman is correct in his observation concerning the irritating effect of soap-suds on the mucosa of the large bowel. These are to be given in emergencies only and not frequently repeated. Yet when an enema is ordered in a hospital, soap-suds will be given in 90 per cent of cases unless no soap can be found or a guard is by to prohibit its use. It occasionally occurs that the patient has no muscular control, in which event the patient should be inverted when an enema is to be given. It has long since been proved that ordinary colon tubes cannot be introduced more than a few inches into the bowel before they hang against the walls and cannot progress farther. If it were possible to pass tubes into the colon it would be useless, since the solution always goes in advance of the distal end of the tube.

DR. D. C. MCKENNEY, Buffalo: As the author says, the insertion of hard enema tips and large open-end rectal tubes is often painful and the cause of injury to the tissues. Especially is this true when there are internal hemorrhoids on

account of the not infrequent infection of the rectum with gonococci. I should like to make a plea for sterilization, so far as possible, of the anal and perianal skin before anything is passed into the rectum. Catheter enema tips are best and should be passed by sight and feel, without using force, rather than under the covers as is so often done by nurses and orderlies. A Sims position is most convenient, and when the patient holds up the top buttock with one hand and strains down gently as at stool, the sphincter relaxes and this makes for easy and safe passage of the catheter. When a so-called high bowel wash is given with a long rectum tube, as the author says it curls up in the rectum. The tip returns to the upper end of the anal canal and the coiled tube tends to distend and irritate the ampulla, so that the patient's complaint that he can retain very little solution is easily understood. The author tells us that constipation and obstipation can never be cured by enemas and bowel flushes. This unfavorable result depends much on how they are given. When the act of defecation is incomplete, really only an overflow, I know of no better remedy than the use of a pint of clear water, at 65 F., passed into the rectum through a male catheter inserted not more than 2 inches and attached to an irrigating can hung 5 feet high. Thus, cool water is deposited with some force suddenly at the anorectal junction, the most sensitive area, really the push-button of defecation. This surprise causes a quick and usually a complete response. The lazy bowel is exercised by active contraction and, what is very desirable, the cool water reduces the congestion in the hemorrhoidal area. Should the pelvis colon and rectum be emptied in this way, after breakfast, daily for a week and every other day for another week, then, perhaps, once a week for a while, it is not at all uncommon in a few weeks to have daily unaided natural bowel movement with restoration of sensation and tone to the lower bowel. A large, hot enema, on the contrary, soothes the bowel, causing loss of sensation with no incentive to contraction and thus the bowel easily distends and loss of tone is the result.

DR. LOUIS J. HIRSCHMAN, Detroit: Teaching orderlies and nurses the technic of giving enemas should be brought to the attention of every one who practices medicine in a hospital or who orders other people to do certain things. It has been my misfortune to be asked in innumerable instances to remove enema tips from the rectum after they have gone beyond the grasp and sight of the donor of the enema, and, unfortunately, in some of those instances, it has happened in the families of some of my fellow practitioners. The question of treating constipation by enemas, as mentioned by Dr. McKenney, I think was slightly misunderstood. I stated that no case of chronic constipation could be cured by the giving of enemas, meaning the chronic giving of enemas in chronic cases. There are some proctologists, gastro-enterologists and other "ologists" who have patients coming to their offices month after month and year after year to have their colons laundered. As a matter of fact, that has gone beyond the offices of the doctors. In all cities there are now nurses who are specializing in giving enemas, and patients who suddenly come no longer have been taken over by the enema-giving nurse or hydrotherapist and are being washed from now until they go to their last journey across the river Styx. Dr. Hanes has seen a peroxide enema kill a patient. I have seen innumerable instances of patients who have been saved, not from death but from serious surgical operation. I have seen patients who have had a diagnosis made of colon tumor or carcinoma, when all they had was a fecal impaction and the timely giving of a 25 per cent enema of peroxide and water has dissolved the impaction and given the patient comfort and, perhaps, saved his life. I hope that nobody has misconstrued anything I have said which would lead him to think that I advocate curing constipation by purgatives as opposed to enemas. The treatment must be fitted to the patient and there is no one treatment any more than there is one class of constipation. I merely wish to call attention to the fact that this indiscriminate irrigating of the colons of the public is being carried to such an extent that we must call a halt and at the same time I do not want the many cases in which enemas can be used over a short space of time to be overlooked.

LEPTOSPIROSIS ICTEROHAEMORRHAGICA*

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Medical literature has contained many references to cases of jaundice associated with hemorrhages. These have been called Weil's [1] disease since his description in 1886. Inada,[2] in 1916, isolated a spirochete from epidemic and sporadic cases of jaundice in Japan. Noguchi [3] studied this organism and classed it as a leptospira, because of the morphology, absence of flagella, and flexibility of the terminal portion. During the World War, epidemics of jaundice with hemorrhage occurred among the troops in widely separated areas.

Leptospirosis icterohaemorrhagica is a sporadic and epidemic disease which is usually characterized by jaundice and a hemorrhagic diathesis. The organism is a common commensal in rats. It is probably transmitted by contaminated water or soil through the alimentary tract or skin.

The leptospiras present a characteristic picture when observed with dark field illumination. They appear as a wavy or hooked chain of highly refractile dots surrounded by a halo. They are flexible and move rapidly and erratically with a rotary motion, which differentiates them from the refractile fat droplets and filaments of fibrin that are seen in fresh blood smears. Stained preparations show that the organisms resemble a tightly wound, slender coil with tapering ends. They vary from 3 to 20 microns in length and normally have two coils to each micron. The terminal portions are more closely wound and the ends are curved, resembling a fish-hook or an elongated letter S or C.

The organisms are aerobic and grow well at room temperature in Noguchi's semisolid medium: "Fresh rabbit serum, 1 part; distilled water, 8 parts; 2 per cent nutrient agar (p_H 7.5), 1 part. The mixture of rabbit serum and distilled water is kept at a temperature of 50 C., and the melted agar, cooled to that temperature, is added quickly. The whole is rapidly mixed and distributed immediately, before the agar flocculates, into culture tubes measuring 20 by 200 mm. (the so-called Noguchi tubes), 10 cc. to each. The tubes are put into the refrigerator (4 C.) to hasten solidification into an almost transparent, semigelatinous, homogeneous mass. If the agar flocculates and does not form a homogeneous mixture with the other ingredients, the medium is unsuitable for cultivation." The growth appears in seven to ten days as a haze in the upper part of the medium. The leptospiras are not numerous in the first culture.

The organisms are rather difficult to stain in smears. Two satisfactory methods are either to fix for two minutes in osmic acid vapor and overstain with polychrome methylene blue or Giemsa stain, or to fix in buffered solution of formaldehyde and stain with saturated alcoholic basic fuchsin. The leptospiras are best demonstrated in tissues by the original Levaditi method.

* From the First Medical (Columbia) Division and Pathological Laboratory of Bellevue Hospital.

1. Weil, A.: Ueber eine eigenthumliche, mit Miltztumor, Icterus und Nephritis, einhergehende, acute Infectionskrankheit, Deutsches Arch. f. klin. Med. **39**: 209-232, 1886.

2. Inada, R.; Ido, Y.; Hoki, R.; Kaneko, R., and Ito, H.: The Etiology, Mode of Infection and Specific Therapy of Weil's Disease (Spirochetosis Icterohemorrhagica), J. Exper. Med. **23**: 377 (March) 1916.

3. Noguchi, Hideyo: Morphological Characteristics and Nomenclature of Leptospira (Spirocheta) Icterohemorrhagica, J. Exper. Med. **27**: 575-592 (May) 1918.

The incubation period of leptospirosis icterohaemorrhagica is from six to eight days. The infection probably occurs through the intact skin or alimentary tract. There is little difficulty in diagnosing a typical case, owing to the characteristic clinical picture. It is convenient to describe the disease in three phases.

The first, or prodromal, stage lasts from five to seven days. The onset is frequently acute, with chill and fever up to 104 F. Vomiting and diarrhea are often marked and there is usually severe headache and myalgia. Subconjunctival hemorrhages and hemorrhagic herpes occur. The liver and spleen may be enlarged. The blood and cerebrospinal fluid are infective for guinea-pigs, but the organisms are extremely difficult to demonstrate by smears or by dark field illumination.

The second, or icteric, stage lasts about a week. Prostration is pronounced and jaundice appears. The patient may be irrational or comatose. Petechiae appear, and hemoptysis and melena sometimes occur. The highest mortality occurs during this period. The cerebrospinal fluid is infective for guinea-pigs, but the blood and urine usually will not transmit the disease.

The third, or convalescent, stage starts with the third week of the illness and is usually prolonged. A relapsing fever sometimes occurs during this period, but it apparently does not indicate a poor prognosis. Injection of the urine from the fifteenth to the twenty-fifth day (sometimes to the fortieth day) into experimental animals readily reproduces the disease. The cerebrospinal fluid becomes reinfective during the relapsing fever.

Many atypical forms of leptospirosis icterohaemorrhagica are observed, especially during an epidemic. They vary from mild types, without fever, to severe cases with anuria. Some patients may not be jaundiced, some may show marked meningeal symptoms, and in some cases the predominating feature may be the severe pain in the muscles. The mortality in epidemics may be as high as 30 per cent, but death is unusual in the sporadic cases.

There is usually a leukocytosis of from 15,000 to 18,000 cells, with about 85 per cent polymorphonuclear leukocytes. Mild anemia is noted during convalescence. The coagulation time is not changed, and the fragility of the red blood cells is normal. The van den Bergh test may show that an obstructive jaundice exists for a few days. The cerebrospinal fluid, in about 60 per cent of the cases, shows evidence of meningeal irritation. There are from 25 to 100 cells per cubic millimeter, chiefly polymorphonuclear leukocytes, early in the disease. The globulin is increased and the fluid may be yellow. Chemical examination of the blood often reveals an increase in creatinine and urea. The urine contains bile and albumin; microscopic examination of the sediment often shows red cells and granular casts.

The gross pathologic changes comprise little but jaundice, petechial hemorrhages and engorgement of the liver and spleen. Dawson [4] reports that the duodenum was edematous and congested in two of his cases. Microscopic examination of the liver reveals diffuse granular and fatty degeneration with bile stasis. The lobular formation is indistinct. There is congestion and sometimes necrosis about the central veins. The kidneys show some cloudy swelling and granular degeneration of the proximal convoluted tubules and the descending limb of Henle's loop. The leptospiras have been found in the liver cells, kidney tubules and suprarenal glands during the first week of the illness. During the icteric stage, they are more numerous in the proximal convoluted tubules of the kidneys. Organisms have also been found in the heart, intestines, striated muscles (especially the gastrocnemius and rectus abdominis), prostate, bladder, testes, epididymis, thymus and uterus.

Immune serum, when given early in the disease, has reduced the mortality rate in epidemics. Arsphenamine has not been of value and is contraindicated because of the amount of injury to the liver. Symptomatic and supportive treatment should be used throughout the course of the disease.

Rabbits and young dogs may be infected by the leptospiras, but guinea-pigs are the most susceptible experimental animals. They show typical lesions following the intraperitoneal inoculation of blood, cerebrospinal fluid or urine from patients with leptospirosis icterohaemorrhagica. Guinea-pigs that have been infected with a virulent strain of the organism have an elevation of temperature and jaundice, followed by prostration with a subnormal temperature and death in from five to seven days. The jaundice is first seen in the prepuce or labia. Examination of the animals shows marked jaundice and petechial hemorrhages in the skin and peritoneum. The lymph nodes, especially those in the groin, are enlarged and hemorrhagic. There may be retroperitoneal hemorrhage. The large and small intestines and kidneys show pin-point areas of hemorrhage. The suprarenal glands contain massive hemorrhages, but this may occur in guinea-pigs with any severe toxemia. The liver and spleen are frequently somewhat engorged. The most typical lesions are those observed in the lungs. Many sharply defined hemorrhagic areas are seen, which have been aptly described by Inada as resembling "the wing of a mottled butterfly." They are more numerous along the lateral margins of the lower lobes. The hemorrhages may be more diffuse and involve an entire lobe.

It has been found that guinea-pigs may survive the injection of some strains of organisms, and it is advisable to kill the animal after from seven to ten days to examine it for the typical lesions. Passage animals are most easily infected by intraperitoneal inoculation of the heart's blood or by emulsion of the liver. Microscopic examination of tissues from guinea-pigs dying of the disease reveals marked pulmonary hemorrhages. The liver shows areas of focal necrosis near the periphery of the lobules, with proliferation of the endothelial cells and an accumulation of polymorphonuclear leukocytes. There is some separation of the cells, with disintegration of the architecture of the liver. The kidneys are greatly engorged with blood and there are hemorrhages in Bowman's capsule. The leptospiras may be easily demonstrated in the liver and kidney from passage animals.

Leptospirosis icterohaemorrhagica has been reported in Europe, Asia, and North and South America. As far as can be determined, the organisms have never been recovered by culture from a patient in this country. Two cases of jaundice with hemorrhages have been studied recently, and cultures of the leptospiras were grown from the urine and the cerebrospinal fluid.

REPORT OF CASES

CASE 1.—W. G., a man, aged 35, American, a sewer cleaner, admitted to the hospital, Sept. 5, 1926, complained of headache and vomiting. The family and past history were irrelevant.

4. Dawson, B.: An Address on Spirochetosis Icterohemorrhagica, Lancet 2: 575 (Nov. 2) 1918.

Six days before coming to the hospital, the patient "felt stiff in the bones." The following day he had a severe chill and pains in the muscles. A physician told him that he had a temperature of 101 F. and made a diagnosis of "summer grip." For the next three days he was drowsy, vomited frequently, and had severe muscular pains. On the morning of the fifth day of his illness, he was brighter and the pains were less severe. The following day the retching and vomiting recurred and he complained of a severe headache. Slight jaundice was noted on the seventh day and the patient was brought to the hospital.

The patient was dehydrated, stuporous and slightly jaundiced. The temperature was 101.8 F., the heart rate was 96, and the respirations were 22. The only positive finding was an enlarged liver, the edge being 7 cm. below the costal margin. The blood count showed 10,400 leukocytes, with 84 per cent polymorphonuclears, 7 per cent transitional cells, 6 per cent lymphocytes, 2 per cent eosinophils and 1 per cent basophils. The urine contained a large amount of bile and some albumin. Microscopic examination of the sediment was negative. Chemical analysis of the blood revealed 46 Gm. of nonprotein nitrogen per liter, 2.6 Gm. of uric acid per liter, and 1.5 Gm. of creatinine per liter.

Hemorrhagic herpes appeared on the eighth day of the illness. The next day many petechial hemorrhages were noted over the back, thighs and pectoral region. The blood showed evidence of dehydration, the red count being 6,800,000 and the hemoglobin 105 per cent. The following day the jaundice increased, but the vomiting ceased and the drowsiness disappeared. The temperature fell by lysis and the patient steadily improved. The icterus began to disappear during the third week of his illness. The red count was repeated and showed a slight anemia (red blood cells, 4,200,000; hemoglobin, 65 per cent [Sahli]). The patient was discharged home on the eighteenth day of his illness. Six months later the patient was in excellent health and the liver was barely palpable.

Guinea-pigs were inoculated with blood obtained from the patient on the eighth and ninth days of the disease, but no pathologic lesions could be demonstrated in the animals. Specimens of urine were collected from the patient from the fourteenth to the eighteenth day of his illness. The urine was centrifugalized at high speed and from 7 to 10 cc. of the sediment was injected intraperitoneally into eleven animals. Two of them died seven days after inoculation and showed typical lesions. Cultures of leptospiras were obtained from the heart's blood. One cubic centimeter of this culture was injected into a guinea-pig and the animal died in five days with characteristic pathologic lesions. Small amounts of this culture were planted on various mediums, but no growth was obtained aerobically or anaerobically after two weeks.

Urine was collected from animals sick with the disease and was inoculated into other guinea-pigs. The latter died in from five to seven days and showed the usual lesions. Animals were infected by rubbing the intact skin with material containing leptospiras. They died in from two to three weeks and presented the characteristic hemorrhages in the lungs.

Eight of the animals injected with urine from the patient showed evidence, on microscopic examination, that they had recovered from the disease. Old hemorrhages were found in the lungs, there was repair in the liver, and some hyaline material was present in the glomeruli of the kidney.

CASE 2.—J. R., a man, aged 37, Swedish, a laborer, was admitted to the hospital, Oct. 30, 1926, because of jaundice. The family and past history were irrelevant. The patient was well until a week before admission to the hospital, when he had a severe headache with chills and fever. The following day he had severe diarrhea, but no blood was noted in the yellowish stools. The diarrhea persisted for three days. Two days before admission, the patient noticed that his skin and sclerae were yellow.

The patient was well developed and well nourished, not acutely ill. The skin and sclerae were jaundiced. The only positive observations were a firm liver edge four finger breadths below the costal margin in the nipple line, and a spleen palpable below the costal margin in the nipple line. The temperature was 101.2 F., the heart rate was 100, and the respirations were 22. The blood count showed 11,600 leukocytes, with 80 per cent polymorphonuclears, 15 per cent lymphocytes, 3 per cent transitional cells, and 2 per cent eosinophils. The urine contained a large amount of bile. Chemical analysis of the blood revealed 30 Gm. of nonprotein nitrogen and 2.9 Gm. of uric acid per liter. The cerebrospinal fluid did not show increased pressure. The cell count revealed 20 cells (16 polymorphonuclear leukocytes and 4 lymphocytes). The globulin was +++ and the sugar normal.

Ten days after the onset of the illness the stools were clay colored, and bile did not reappear until the eighteenth day. The jaundice began to decrease the third week. Twenty days after the onset of the disease, the temperature rose to 101 F. and remained elevated for a week. The jaundice continued to decrease, and the patient slowly regained his strength. The blood count showed 3,800,000 red cells and 68 per cent hemoglobin (Sahli). There were 6,600 leukocytes, of which 55 per cent were polymorphonuclears, 43 per cent lymphocytes, and 2 per cent eosinophils.

Two guinea-pigs were inoculated with 5 cc. of cerebrospinal fluid and were killed on the seventh day. They showed the typical pathologic lesions following injection of leptospiras, and cultures of the organisms were obtained from the heart's blood. Urine was injected into the experimental animals as in the previous case, and the customary lesions were observed.

SUMMARY

1. Two sporadic cases of leptospirosis icterohaemorrhagica have been studied recently.

2. Cultures from the urine yielded the organisms in both cases and from the cerebrospinal fluid in one case.

ACTINOMYCOSIS OF LUNGS AND SUPRARENALS *

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Actinomycosis, formerly considered a rare disease, is being more and more frequently recognized, for in 1925 Sanford [1] collected data on 680 cases. Of these 680 cases, 335 had never been reported in the literature; the information was obtained by direct letters to superintendents of hospitals, state veterinarians, and state health departments. The first case was reported in 1845 by Langenbeck, and was recognized by the sulphur granules found in the pus from vertebral caries. The first case reported in America was by Murphy in 1857, while the first one noted here with pulmonary involvement was reported by Hodenpyl [2] in 1890.

The term actinomycosis, according to the approved classification of the present time, includes all organisms with branching mycelia which break up into segments as conidia with clubbed ends and radiating threads. These mycelia may break up into bacillus-like pieces which are nonmotile and may or may not be acid fast. The presence of these in the sputum may lead to confusion with tubercle bacilli, and in such cases search should be made for true branching of the threads, which may be found only after examination of many specimens. A classification of the pathogenic actinomy-

* From the Department of Pediatrics, the Pathological Department of the University of Minnesota and the Miller Hospital Clinic.

* Read before the Section on Diseases of Children at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 20, 1927.

1. Sanford, A. H.: Distribution of Actinomycosis in the United States, J. A. M. A. **81**: 655 (Aug. 25) 1923; Sanford, A. H., and Magath, T. B.: Etiology and Laboratory Diagnosis of Actinomycosis, Minnesota Med. **5**: 71 (Feb.) 1922; Sanford, A. H., and Voelker, Minna: Actinomycosis in the United States, Arch. Surg. **11**: 809 (Dec.) 1925.

2. Hodenpyl: Actinomycosis of Lungs, M. Rec. **38**: 653, 1890.

coses was made by Stokes [3] in 1904, and included seven strains. Of these, the most common and well known member is the bovine actinomycosis, or the "ray fungus," appearing as the so-called sulphur granules in pus. These are small, yellowish masses about the size of a pin, usually found in the pus from the affected region. For recognition, these should be washed by potassium or sodium hydroxide to remove the adherent pus and examined under the low power of a microscope, where they appear as a center of tangled threads surrounded by a zone of clubbed ends. These show well by the Gram stain, the mycelia appearing blue and the clubs red, and in tissues they are easily demonstrable by the hematoxylin and eosin stain. They may be grossly confused with bits of inspissated pus, but these may be differentiated by microscopic examination of the washed granule.

The organisms are found on vegetation, especially on grain stalks. In experimental work, seeds have been inoculated and the fungi have appeared on the stalks. They are also found in dust, pollen or chaff from grains. Infection occurs by ingestion of infected material, aspiration of infected dust, chaff, pollen or foreign bodies; or by inoculation from wounds made by infected material, such as barley beards or grain stalks. The organism has frequently been demonstrated in the digestive tract of man, and is doubtless due to the prevalent habit of chewing grain stalks, straw or blades of grass. Aspiration as a means of infection has been proved by finding an aspirated foreign body, as a bit of carious tooth or barley beard in the lungs, surrounded by the organisms. Workers in grain fields, tobacco factories and distilleries, or about threshing machines, are often victims of actinomycosis. Many cases have been reported in which infections of the mouth, throat, tongue or neck have directly followed wounds by grain stalks or barley beards. It is uncertain whether or not the organisms are able to pass through intact mucous membrane, but it is a well established fact that the disease may be caused by the inoculation of materials, frequently known to carry the fungi, into the mucous membrane. Men who associate with affected cattle have been known to acquire the disease, but there has never yet been reported any authentic instance in which man was known to have been infected directly from cattle or from other men. It is also well known that healthy cattle may be closely associated with infected ones without acquiring the disease. Therefore, it is thought that in all probability man and animals are infected from a common source, such as the resting stage of the organism on vegetation.

Infection of the lungs takes place most commonly by extension from other parts of the body, usually the head and neck, which are the most frequent sites of the disease; but in such a case it is, of course, really a secondary infection. Primary infections are usually by direct aspiration of infective material through the air passages, but very rarely they may take place by metastasis through the blood stream. It has been suggested that the organisms may pass through intact mucous membrane without leaving a lesion at the point of entrance, and that therefore there is a possibility of their passing through the wall of the esophagus without leaving a lesion, and entering the lung to cause an infection there; but such a possibility has never become a proved fact. In Sanford's series about 50 per cent of the cases were in persons who were either directly or indirectly associated with cattle, while the other 50 per cent included practically all occupations. This, however, means very little when it is remembered that any one may spend a week-end or a vacation in the country, where straw or blades of grass may be chewed.

The incubation period is difficult to determine in lesions of the viscera, but it has been noted that symptoms of the disease may follow within a few days in infection of the mouth or jaw, where it is easily observed, and within a few months in the abdominal cavity, where it is not so quickly diagnosed.

The disease is found in all parts of the United States and Canada, but in Sanford's extensive investigations it is found to be most prevalent in the upper Mississippi valley and the northwestern United States, where the communities are agricultural. It may not necessarily be increasing but it is being more frequently recognized, as, for example, at the Mayo Clinic, where, in 1913, only two cases were diagnosed, as compared to twenty-two cases in 1922. The incidence of the location of the disease in the lungs is given in the literature as about 20 per cent, but in Sanford's series of 680 cases, only seventy-two, or 10.5 per cent, were in the lungs, and of the seventy-two only forty-six, or 6.8 per cent of all cases and 64.7 per cent of the pulmonary cases, showed an involvement of the lungs alone, so that primary involvement of the lungs must be rare indeed. Many of the cases of pulmonary infection are really only extensions o the process from other parts of the body, usually the head and neck.

Males are more often the victims of the disease, comprising about 80 per cent of all cases. This may be accounted for by the fact that males more often live an outdoor life and are much more accustomed to chewing straw or grass.

All ages may be affected, and in the reported cases the oldest was 84 years and the youngest 28 days. The latter case, however, was that of one of the streptothrix group and not of the bovine type of actinomycosis. It is less common in children, as shown by Sanford's series, in which forty, or 0.6 per cent, were under 14 years of age, and only thirty-one, or 0.46 per cent were under 12 years of age. Of these cases of infection, very few, or only 0.6 per cent of all cases and 5.5 per cent of all the pulmonary cases, were in children. This comparative rarity may be accounted for by the more sheltered life of childhood.

The duration of the disease varies with the part of the body affected. The average time is given as from six to ten months for the majority of locations, and from two to three years in the lungs. Pulmonary actinomycosis is usually fatal, but healing occasionally occurs.

The lesions are neoplastic, with new bone formation in cows and horses, but in man they are inflammatory and suppurative, with the formation of granulation tissue. Practically any tissue in the body, with the exception of the bones, may be primarily affected. In the early stages the lesions consist of a center of polymorphonuclear cells and fungi; then around this is a layer of necrotic cells and cell débris, and outside of this a zone of typical granulation tissue. As these lesions grow larger, the central portion of pus increases in amount and tends to burrow through the tissue, ultimately reaching the outside, or some body cavity where it may be discharged through a sinus, which continues to discharge pus instead of healing. The lesions with centers of burrowing pus may form a network of sinuses, any of which may communicate with

3. Stokes: Actinomycosis, Am. J. M. Sc. **128**: 861, 1904.

each other or with the outside, so that the affected organ becomes a spongelike mass of granulation tissue with numerous pockets of pus, which usually contains the "sulphur granules" with the fungi. Occasionally a large amount of pus is discharged, leaving a cavity, in which there may be a hemorrhage from eroded blood vessels; but these processes are rare because the cavity is filled and the hemorrhage prevented by the vanguard of granulation tissue which is always present in the lesions.

The lesions in the lungs are of four types: The first is the bronchitic type, in which the infection is confined to the bronchi, and characterized by the presence of pus and fungi. This is rarely seen and probably constitutes the beginning of each lesion acquired by inhalation. The second is the pneumonic type, in which the process is spreading from the bronchi out to the surrounding alveoli, which are filled with pus but rarely with fibrin, and which resembles an ordinary bronchopneumonia in its first appearance and progress. At various points in the alveoli earlier affected there is an attempt at healing by the replacement of the exudate with connective tissue, which grows in from the side and obliterates the lumen, thus causing hard, fibrous nodules which alternate with the typical softer lesions or abscesses. In some areas there is no attempt at organization, but instead the alveolar walls are lost and replaced by pus and fungi which go to make up the typical lesions, which may coalesce to form larger abscesses. The picture is one of great variation: bronchi filled with pus, organized nodules of connective tissue, and small or large abscesses. The third type is the pleuropneumonic type, in which the abscesses have grown larger and the pus has burrowed to the pleural cavity, where it may accumulate or where granulation tissue may appear; the latter will, of course, yield little on puncture. Here the pus frequently burrows and invades the chest wall. These three types, obviously different only in duration, are really different stages of the same process. The fourth type is metastatic nodules, which are supposed to be carried by the blood stream and to represent sites of location of the organisms with no relationship to the bronchi. Whether or not this type really exists is as yet an unsettled question, but it seems difficult to believe that the lung may be peppered by these blood borne infections while the other organs of the body escape, and multiple miliary lesions of the rest of the body are practically never seen. Also, it is difficult to believe that these small lesions may not have some connection with a bronchus; furthermore, if this were a frequent mode of infection, lesions would not predominate in the lower lobes and be infrequent in the apexes.

The type of lesion as well as the source of infection is usually impossible to determine at the autopsy table, since in the terminal stage the lesion is so large that practically all of the lung is affected and the disease has progressed to other parts of the body. It usually appears in the lower lobes and then spreads to the rest of the lobe or lung, then to the pleural cavity and then to the spinal column, the chest wall and occasionally through the diaphragm to the peritoneal cavity and abdominal organs. Seen in this stage, primary pulmonary infection is impossible to prove. The neighboring lymph nodes are frequently enlarged, but they show only a secondary infection with no evidence of the fungi.

The clinical symptoms vary widely according to the part of the body affected, or to the size and extension of the lesion. In an involvement of the lungs there are chills, fever of the irregular type, night sweats, anemia, emaciation, pain which is always severe, and sputum which may contain a large amount of pus, may have a fetid odor, may contain a small amount of blood, or may be thin and watery. If much pus is present, the typical sulphur granules containing the fungi are often present and will prove the diagnosis. Naturally, the symptoms and the type of sputum will vary greatly because of the great variety in the type or age of the lesions that may be present in the lungs. For the same reason, the roentgen-ray picture will be a variable one. Consolidation in the form either of a large mass or of small nodules may be demonstrated, and fluid may or may not be found. The disease must be differentiated from tuberculosis, bronchiectasis, lung abscess or tumors of the lung. The finding of the fungi in the sputum or the involvement of the chest wall will make the definite diagnosis, but only too often these signs are present only in the terminal stages. The most difficult differentiation is from lung abscess from other causes, and this frequently cannot be done until the terminal stage is reached. The most frequent differentiation is from tuberculosis, and the characteristic points of each condition, as given in the accompanying table, may be of assistance.

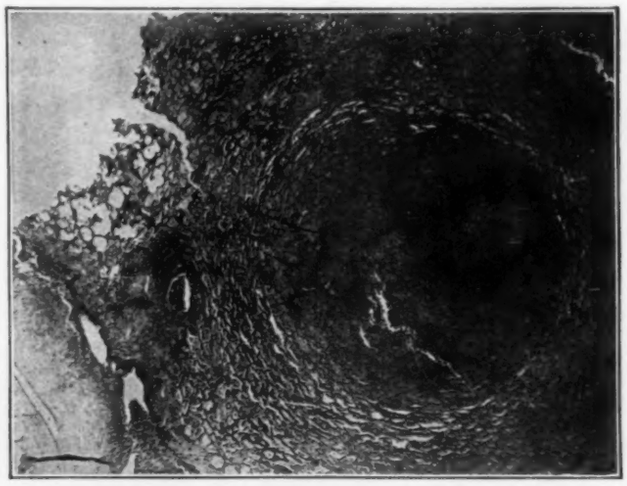

Fig. 1.—Microscopic appearance of lung with a small abscess in the center. The fungi are seen around the periphery of the abscess.

Distinguishing Characteristics of Actinomycosis and Tuberculosis

Actinomycosis	*Tuberculosis*
Lower lobes of lung first affected	Apexes first affected
Lymph nodes never involved	Lymph nodes usually involved
Pain a common symptom	Pain a rare symptom
Cavity formation rare	Cavity formation frequent
Fungi often in sputum	Tubercle bacilli often in sputum
Spreads by continuity	Often metastasizes through blood
Sinuses often present in chest wall	No involvement of chest wall
Abscess formation frequent	No abscess formation
Often spreads through diaphragm	Very rarely spreads through diaphragm

The treatment of actinomycosis is largely empiric. In local conditions surgical measures, combined with topical applications of tincture of iodine and the internal exhibition of potassium iodide in increasing doses, even

up to the point of toleration, seems to have the greatest influence on the disease. The influence of the roentgen ray is favorably commented on in some quarters. The internal use of arsenic and of copper sulphate has also been advised, and in the case of pulmonary actinomycosis the result obtained from the use of oil of eucalyptus has been quite satisfactory. Surgical treatment of lung actinomycosis has not been productive of good results. Judd [4] reports prompt recovery in one case of actinomycosis of the jaw, following extraction of a carious tooth, by the use of vaccine.

REPORT OF CASE

As has already been stated, pulmonary actinomycosis is comparatively rare in children, occurring in only about 0.6 per cent of cases. Such a case was recently observed at the Miller Hospital:

A boy, aged 8 years, was admitted, Sept. 20, 1926, because of cough, fever, rapid respiration and general malaise. He had had bronchitis at the age of 3 months, and pneumonia at 8 months and again at 5 years, following which he was never really well. In July, 1925, he was sent by Dr. Everett Geer to the Children's Preventorium because of general weakness and anemia, but even there he did not do well and his general condition remained about the same. Sept. 17, 1926, an abscess on his back was opened, and shortly afterward a diagnosis of pneumonia was made and he was sent into the hospital. The physical examination showed rapid and somewhat labored breathing, with diminished expansion on the right side. On the left side were coarse breath sounds but no dulness. On the right side dulness was present below the sixth rib, and bronchophony at the right base. For a time the lung condition seemed to improve, but again became worse, and the boy died, November 17.

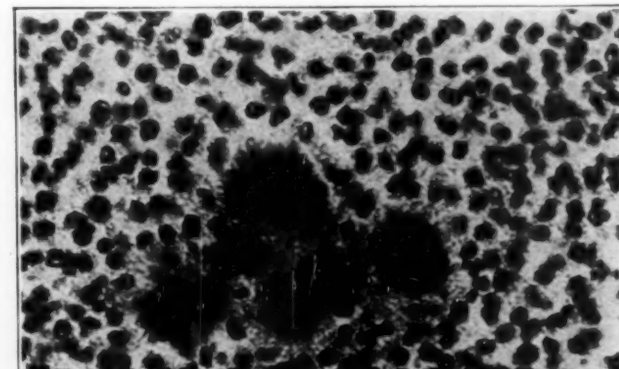

Fig. 2.—High power view of ray fungus surrounded by polymorphonuclear leukocytes from one of the abscesses.

Tests of the urine were always negative; the hemoglobin was 45 per cent; the red count was 3,100,000, and the white count, 15,500, with a differential count of 66 per cent polymorphonuclears, 32 per cent lymphocytes and 1 per cent eosinophils. There was a large amount of sputum which did not show tubercle bacilli but, unfortunately, sulphur granules were not searched for, and the diagnosis was not made before death. The roentgen-ray diagnosis, October 4, was "bronchopneumonia and pleurisy," and October 25, "advanced tuberculosis." The temperature was very irregular and varied from 99 to 104 F. The pulse was also irregular and varied from 120 to 170.

The body, as seen at necropsy, was emaciated. On the back, just to the right of the spine and just above the top of the sacrum, was a small brown crust under which there was no pus and in which the exploring probe did not show any opening into the subcutaneous tissue, proving that it was not a sinus caused by the disease.

Both pleural cavities were obliterated by firm, fibrous adhesions. The lungs were large and showed numerous small nodules varying in size from 3 mm. to 1 cm. in diameter, scattered over the surface and throughout the organ. Many were firm in consistency and poorly defined, while others were more sharply demarcated and filled with greenish-yellow pus. When the pus was evacuated some showed smooth inner surfaces, while in others was the roughness of granulation tissue. The lung tissue between these nodules was dry and fluffy with no evidence of consolidation. The lymph nodes were slightly enlarged and dark in color, but they were homogeneous without evidence of either caseation or calcification.

The microscopic sections of the lungs showed a variety of lesions. The bronchi were dilated and filled with pus, and around these, as well as in other areas, were alveoli filled with pus cells giving a picture similar to bronchopneumonia. Other groups of alveoli were filled with newly formed connective tissue which was growing in from the wall and obliterating the lumina. In still others the alveolar walls were obliterated by typical lesions consisting of centers of pus cells and fungi, an outer zone of necrotic tissue and an outside layer of granulation tissue. These lesions were of various sizes but were all similar in composition. No fibrin was seen, and no organisms were observed in the bronchi.

The lower surface of the diaphragm on the right side showed a layer of grayish-white exudate. This extended over the surface of the liver and down over the posterior surface of the peritoneal cavity to the center of the kidney, where it stopped abruptly. The right suprarenal was entirely covered by the exudate and it was much enlarged, weighing 50 Gm. The organ was puffy in appearance but the outer surface was intact and not attached to the kidney. It fluctuated, and on gross section proved to be a spongelike mass of granulation tissue with numerous pockets of pus between the septums. Microscopic sections showed the outer surface and trabeculae to consist of newly formed connective tissue with many thin walled blood vessels, lymphocytes and pus cells. In the pus were many fungi, but these were not recognized by means of the sulphur granules on the gross examination. No evidence of normal suprarenal tissue remained.

COMMENT

This case is one of unusual interest for several reasons. First of all, pulmonary actinomycosis is very rare in children and also it is unusual to find the disease uniformly distributed throughout the lungs with no large accumulations of pus and no sinuses to the pleural cavity or chest wall. From all appearances, it was of comparatively short duration and larger lesions had not as yet had a chance to form. Involvement of the suprarenal alone of the abdominal organs is rare, and the sequence of the infection is difficult to determine. Since it was bilateral and since the diaphragm was covered by exudate, it seems reasonable to suppose that the lungs were first affected and that it later spread to the abdominal cavity. The source of infection cannot, of course, be determined, but it is possible that the patient picked it up from vegetation, since the children at the preventorium spend a great deal of their time outdoors. This case also emphasizes the fact that actinomycosis may cause a diffuse infection of the lungs, and that it may easily be confused with pulmonary tuberculosis. In similar cases without the tubercle bacilli in the sputum, the sputum should be examined for sulphur granules, and, further, children as well as adults should be warned against the prevalent habit of chewing straw or blades of grass.

Hamm Building.

4. Judd, W. R.: Vaccine Therapy in a Case of Actinomycosis Following Extraction of a Tooth, Brit. M. J. 2: 886 (Nov. 13) 1926.

ABSTRACT OF DISCUSSION

DR. J. C. GITTINGS, Philadelphia: Our patient came under my observation at 5 years of age after having been sick five months. There was total involvement of the left chest, but the child's general condition was good. This in itself was a suspicious circumstance since the Wassermann reaction was negative. If such an extensive involvement had been due to tuberculosis, empyema or interstitial pneumonia with abscesses, the child probably would have been more severely ill. In the future I shall not forget actinomycosis in the presence of marked diseases of the lung which do not cause more rapid deterioration of health. Another point was the condition found on opening the swelling which was present in the second interspace near the anterior axillary line. This looked like an empyema necessitans in an unusual situation. Dr. Estill Lee reported that there was very little pus in the swelling, but that the tissues of the pleura and intercostal space were almost cartilaginous in their consistency. Repeated examinations of the sputum and of the pus from the local lesions failed to disclose the organism. It was not until we obtained a section of the pleura itself that they were found. This particular type of tissue of almost cartilaginous consistency must be very suggestive, if not pathognomonic. It seems to me that if more cases are being reported, it may not be due solely to better diagnosis; it is possible that we are witnessing an actual increase in the number of these infections. In view of the unsatisfactory state of treatment of visceral actinomycosis and our ignorance as to the mode of infection in so many cases, the subject warrants intensive study.

DR. HENRY F. HELMHOLZ, Rochester, Minn.: I have not seen as many cases of actinomycosis of the lung as Dr. Gittings has. I wish to emphasize, as he brought out in closing, that actinomycosis of the internal organs is practically always a fatal disease at the present time. It does not improve under any known treatment. We have, however, seen five cases of external actinomycosis in the last six years —three of the neck, one of the back, and one of the cheek. As these cases tend (particularly those of the neck) to perforate into the lungs, which gives a hopeless prognosis, it is of importance to know what can be done when they are still in an early stage. In 107 cases treated in the Mayo Clinic by Dr. New and his associates, it has been found that the treatment is absolutely dependent on the stage in which the disease comes under observation, and their results have been excellent when the condition has been diagnosed in the early stages. Dr. New makes the statement that when the lung has become involved there has been universal failure. The treatment that has been used and that we have followed has consisted of increasing doses of a sodium iodide solution, 10 drops of saturated solution, three times a day, being used at first and with an increasing dosage up to tolerance; this is discontinued for two weeks and then started over in exactly the same way. Then all the nodules are opened up, freely drained and packed daily with iodoform gauze. If the nodules are hard and firm, and have not broken down, radium treatment is given to break them down, and then they are thoroughly drained. In this way, some excellent results have been obtained in the early cases.

DR. M. G. WOHL, Omaha: I have had under observation five patients with actinomycosis, and have records of four additional patients who were under the care of other Nebraska physicians. From the results of an inquiry in representatives in Nebraska, and from our studies, we feel that actinomycosis in children is very rare indeed, since not a single case of actinomycosis in a person under 18 years of age was observed in our state. The youngest patient in our series was a girl, aged 18, who died of pulmonary actinomycosis. An important point in the diagnosis of the disease mentioned by Dr. Christison is the demonstration of the so-called sulphur granules. In our experience, the finding of these bodies was not uniform; we found them in lesions of only three patients. The demonstration of branched filaments without clubs in the presence of such conditions as swollen, slow-healing, indurated areas with sinuses would be sufficient for the diagnosis of actinomycosis. Unfortunately cultures are difficult to obtain because of the contamination; however, this should not deter one from attempting to isolate the fungi from the lesion. A knowledge of the origin of actinomyces is important from a preventive point of view. Lord reproduced lesions similar to actinomycosis by intraperitoneal injection of guinea-pigs with scrapings from carious teeth and material from the crypts of tonsils of persons free from the disease; yet we cannot ignore the fact that actinomyces is very common on straw and grain, and it may be parasitic to such vegetables as potato or beets. Dr. Charles Drechsler of the United States Department of Agriculture advises me that he is of the opinion that morphologically the fungus isolated from the soil and the vegetable kingdom is similar to *Actinomyces bovis*. As to treatment, Dr. Christison mentioned the use of vaccines. In our hands they proved disappointing. We have used potassium iodide, with surgery, roentgen-ray irradiation and radium. I am not yet convinced that the benefits that some of our patients obtained were not due to the heavy doses of potassium iodide, rather than to the additional agents that were employed.

DR. J. T. CHRISTISON, St. Paul: Not by way of excusing ourselves at all, I should like to state that the father of this child was for a year and a half an inmate of a sanatorium in the northern part of our state, suffering from tuberculosis. I assume that the child had a positive Pirquet reaction before being sent to the preventorium. While we admit our shortcomings, I do not think that the diagnosis would have made much difference.

PAROXYSMAL HYPERTENSION WITH TUMOR OF RETROPERITONEAL NERVE

REPORT OF CASE *

CHARLES H. MAYO, M.D.
ROCHESTER, MINN.

There are many isolated facts, some of which are well established, concerning blood pressure. Discussions of the subject which occur from time to time bring out new and interesting facts and call attention to the variations in medical opinion. During this period of developing knowledge, it is essential to gather all the details possible concerning blood pressure, so that eventually a direct route may be laid out through the maze of information.

Without considering the possible changes in the blood as an effect, we accept the ultimate condition in hypertension as being due to the reduced cross-section of the arteriolar tree. The theory that caliber reduction from arteriolar sclerosis causes hypertension must be mentioned. This condition of constriction, however, may be discussed as the cause or result of hypertension, and the possibility must be taken into consideration that chronic mild infection, severe generalized infection or focal infection causes endarteritis with resulting fibrosis or sclerosis of the vessels. Vasoconstriction results in caliber reduction from sympathetic nervous influences, first by liberation of an excess of epinephrine, and secondly by influences relayed from the central nervous system.

Much has been learned about the sympathetic control of the circulation in the limbs through the Leriche operation on the larger arteries, and more by the division of the sympathetic nerves or ganglions, cervical and lumbar. A fresh impetus to these investigations was largely given by the work of Royle and the late John Hunter of Australia.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 20, 1927.

REPORT OF A CASE

This case of paroxysmal hypertension is presented because of the unusually interesting history, the difficulties attending diagnosis, and the complete and permanent relief attained following the surgical removal of a tumor which was apparently the inciting cause. In referring this patient to the clinic, her family physician wrote: "I feel much as Festus felt in sending Paul to Rome, not having any definite accusation against him."

Because of the uncertainty as to diagnosis, the patient was placed in the hospital for observation and study. The attacks resembled somewhat those of paroxysmal tachycardia, but the study of the blood pressure during attacks demonstrated that within three or four minutes from the onset of the discomfort the systolic blood pressure rose from 120 or 130 to 280 or 320 mm. or more, while the diastolic pressure increased from 80 or 90 to 160 or 180 mm. It was soon learned that, although the pulse rate was increased in the course of attacks, the tachycardia was secondary to the increase of the blood pressure. Consequently, the case was regarded as one of paroxysmal hypertension, a condition not heretofore seen in our clinic.

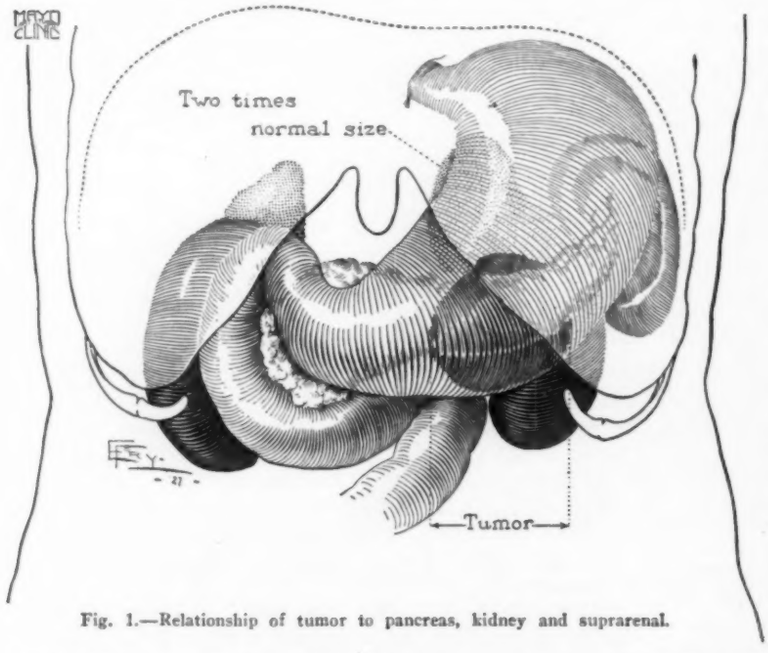

Fig. 1.—Relationship of tumor to pancreas, kidney and suprarenal.

A woman, aged 30, a music teacher, came to the clinic, June 2, 1926, complaining of attacks of dyspnea, occipital headache, tachycardia and vomiting. For eight or ten years previously she had felt "run down," but had carried on her occupation. She had suffered from moderate constipation for six years, and the appendix had been removed three years previously. The paroxysmal attacks had commenced one and a half years previously and had been increasing in frequency and severity; they had occurred every day or two for periods of from six to eight weeks, each one lasting from a half hour to three or four hours and being followed by severe prostration. Some blood had been brought up into the mouth, but the patient was not certain whether it was vomited or expectorated. Several infected teeth had been removed, and a "rest cure" had been followed for eight weeks with doubtful results.

The patient was of the asthenic type, undernourished, and somewhat pale. The tonsils had been cleanly removed. The heart and lungs were normal. The abdomen was normal except for the operative scar. The reflexes were normal. The pulse rate and temperature were normal; the systolic blood pressure was 130, the diastolic 82. The urinalysis, gastric analysis, blood Wassermann tests, electrocardiogram, and roentgenograms of the chest, sinuses, esophagus, stomach and colon were all negative. The hemoglobin was 52 per cent; the erythrocytes numbered 3,610,000, and the leukocytes 9,500. Roentgenograms of the gallbladder by the Graham-Cole technic disclosed a faint shadow.

Because of the uncertainty of diagnosis, the patient was kept under observation in hospital for several weeks. Shortly after admission she began having mild attacks, and the possibility of neurocirculatory asthenia with paroxysmal tachycardia was considered. In a severe attack, July 4, it was noted that the blood pressure rose to 280 systolic and 180 diastolic. July 10, the suggestion was made that the condition might be intermittent hypertension of unknown origin, but probably on the basis of a generalized vascular spasm.

The attacks varied in severity and frequency. At times they occurred daily, again twice daily, and occasionally the patient would be free for one or two days. They came on most often after breakfast, so the patient thought they were due to some article of food. Moving about in bed or walking also seemed to bring on attacks. Prostration and slight abdominal distress, chiefly on the right side, followed. In detail, the attacks subjectively were characterized by "heart consciousness," palpitation, severe occipital headache, at times extending down to the upper dorsal region, nausea, vomiting, choking sensation, dyspnea, cough, dull tight sensation in the chest, at times becoming painful, coldness of the extremities, weakness, some trembling, at times numbness and tingling in the extremities, and occasionally blurring of vision. With later attacks there was severe pain in the lower part of the abdomen and at times in the lumbar region. The patient became extremely prostrated and could not eat for several hours. She did not lose consciousness, however.

Objectively, the patient first showed an anxious facial expression during an attack. The pupils dilated slightly. There was pallor of the body with cold perspiration. Around the eyes, nose and mouth appeared reddish purple mottling. In the later attacks this extended to the upper part of the chest. The veins of the neck were unusually distended. The pulse rate was moderately accelerated. The blood pressure was markedly elevated, frequently exceeding 300 systolic and 180 diastolic. As an attack passed off, this would drop rather rapidly. There was frothy sputum, at times blood tinged and accompanied by signs of pulmonary edema which cleared rapidly with the decrease in blood pressure. The heart enlarged moderately during attacks.

Special studies of the changes demonstrated that the blood pressure increased prior to the elevation of the pulse rate. There was not any visible change in the fundi of the eyes. The capillaries of the nail-fold became entirely obliterated when the blood pressure reached 170 mm. and did not reappear until it had declined to this level. An electrocardiogram did not reveal changes except in the heart rate. A great many drugs were used in an attempt to prevent or abort the attacks, including digitalis, quinidine, amyl nitrite, bromides, chloral, phenobarbital, belladonna, potassium iodide, morphine, typhoid vaccine, histamine and choline. However, there was not any definite benefit from any of these.

Because of the belief that the attacks were in some way mediated through the sympathetic nervous system, and that an approach through the splanchnic nerves might prove beneficial, and because of the increasing abdominal pain, surgical consultation was requested with a view to abdominal exploration. Operation was performed, October 9, through an upper median line incision. The gallbladder was fairly normal, the appendix had been removed previously, and there were no adhesions. The stomach and duodenum were normal. The left suprarenal body was twice the normal size and the right apparently slightly enlarged. There was an oval mass, about 6 by 4 cm., situated retroperitoneally, behind the tail of the pancreas on the mesial side of the left kidney and impinging

against its upper pole (fig. 1). The capsule of the tumor was opened retroperitoneally and the tumor enucleated intact. The bleeding was excessive from a plexus of veins around the tumor; normally the veins of this area are large and connect with the spleen, tail of the pancreas, fundus of the stomach and venous plexuses. The process of separating the tumor and breaking the many strands of attachments extending through the periphery of the capsule seemed like excision of the superior sympathetic ganglion. The tumor proved to be nerve tissue, probably an enormous malignant ganglion removed in its capsule.

Fig. 2.—Gross appearance of tumor.

PATHOLOGIC EXAMINATION OF TUMOR

The specimen consisted of a soft, thinly encapsulated, grayish, spheroidal tumor, 6 by 4 cm. (fig. 2). On gross section a smooth grayish homogeneous surface presented which was easily depressed on slight pressure. This tissue was composed of spheroidal and ovoidal cells of apparently the same type, uniformly and closely massed, there being little intercellular stroma. The cells themselves contained large ovoidal or spheroidal nuclei, which in turn contained unusually large nucleoli giving them malignant characteristics (fig. 3).

From the anatomic location, gross appearance and study of the cytology, it was impossible to determine accurately the real nature of the tissue in relation to normal adult tissues. The unfixed vitally stained cells resembled ganglion cells, but since all were undifferentiated this analogy is in no way complete. The grayish color of the tumor, on removal, changed to an orange yellow after fixation in formaldehyde, giving the mass the appearance of a suprarenal cortical adenoma, but the characteristic differentiated cells and glandular arrangement of the latter were lacking. A diagnosis was made of retroperitoneal malignant blastoma.

RESULTS OF OPERATION

The postoperative convalescence was uneventful for two weeks; then pulmonary infarction developed, the signs of which lasted about ten days. The paroxysms of hypertension have not recurred, and the patient since operation has been entirely free from the accompanying symptoms, headache, tachycardia, dyspnea and vomiting. The systolic blood pressure has never been above 120. The patient's general health has also improved greatly, her weight having increased 30 pounds (13.6 Kg.).

SUMMARY OF CASE

The patient was ill for a year and a half prior to coming to the clinic; she had been entirely incapacitated for work during the last few weeks and had suffered intermittently from peculiar acute attacks characterized by the sudden onset of discomfort in the precordium, occipital headache, generalized pallor, cold and clammy skin, and a peculiar choking sensation followed by nausea and vomiting; these subsided in from thirty minutes to two or three hours. Cough frequently occurred during the attack with expectoration of frothy saliva, frequently tinged with blood. Aside from these attacks there was considerable abdominal distress, chiefly on the right side.

The true nature of these attacks became apparent only on the observation of the high blood pressure. Further observation and study showed that these attacks were in the nature of intermittent paroxysmal hypertension, and that they were attended by generalized vasoconstriction or spasm, as evidenced by pallor of the skin and complete obliteration of the capillaries of the nail-folds during attacks. The presence of abdominal distress, together with the belief that the abdominal sympathetics might be involved, led to exploration. The immediate, complete and permanent relief resulting from the removal of the tumor would seem to indicate that the latter was the sole cause of the illness. The tumor was situated over the left suprarenal body, beneath the tail of the pancreas. Among other possible causes for the hypertension, irritation of the abdominal sympathetics by the tumor must be considered.

COMMENT

Four cases of paroxysmal hypertension have been noted in the literature (all foreign).[1] In one case the lesion was an infiltrating nasopharyngeal carcinoma; in one, a mediastinal lymphosarcoma. In another case a tumor was found at necropsy which was apparently similar to the one reported here, both in situation and in structure. The fourth case reported was a definite case of paroxysmal hypertension in which the etiology was not definitely determined.

In the case of paroxysmal hypertension reported here, the patient had been under observation for some time in the medical service of the hospital. While nothing could be felt in the easily palpated abdomen, diffuse, irregular pain was described as occurring in spells over the abdomen. Exploratory operation was deemed advisable in order to examine the abdomen transversely between the ensiform and the umbilicus, since the supra-

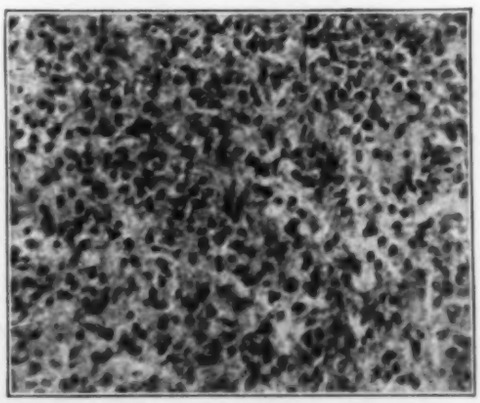

Fig. 3.—Closely massed spheroidal and ovoidal cells of the tumor with little intercellular stroma (× 120).

1. Harvier, P., and Bariéty, M.: Forme laryngée du cancer de l'oesophage; crises hypertensives d'origine laryngée, Bull. et mém. Soc. méd. d. hôp. de Paris **49**: 176-181 (Feb. 6) 1925. Labbé, M.; Tinel, J., and Doumer: Crises solaires et hypertension paroxystique en rapport avec une tumeur surrenale, Bull. et mém. Soc. méd. d. hôp. de Paris **46**: 982-990 (June 23) 1922. Vaquez, H., and Donzelot, E.: Les crises d'hypertension artérielle paroxystique, Presse méd. **34**: 1329-1331 (Oct. 23) 1926. Villaret, M.; Block, S.; Bariéty, M., and Lappas, B.-J.: Crises hypertensives paroxystiques au cours d'un lymphosarcome du mediastin superieur, Presse méd. **34**: 856, 1926.

renals, kidneys, spleen, liver, pancreas and splanchnic sympathetics are in this region. The spleen is capable of changing in size markedly and rapidly, and the obscurity of its relationship to the circulatory mechanism exposes it to vague suspicion in such a case as this. The kidneys are so frequently concerned in hypertension that the term cardiovascular-renal disease covers many cases of hypertension. Epinephrine acts quickly on arterial and capillary vessels, and the suprarenals probably have much to do with quick vascular changes in this region of the abdomen, which is almost a reservoir for blood; it is here that many temporary changes probably occur in surgical shock and collapse.

A NEW OPERATION FOR PROLAPSE OF THE RECTUM*

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A condition so incapacitating as complete prolapse of the rectum invites profound consideration, and any effort to improve the lot of sufferers from this malady should merit attention. That little has been accomplished in the way of cure may be learned by looking over the literature on this subject for the last hundred years. Yet it cannot be said that eminent surgeons have lacked interest in these cases, since in the records one finds Quénu, Hartmann, Todd, Zuckerkandl,

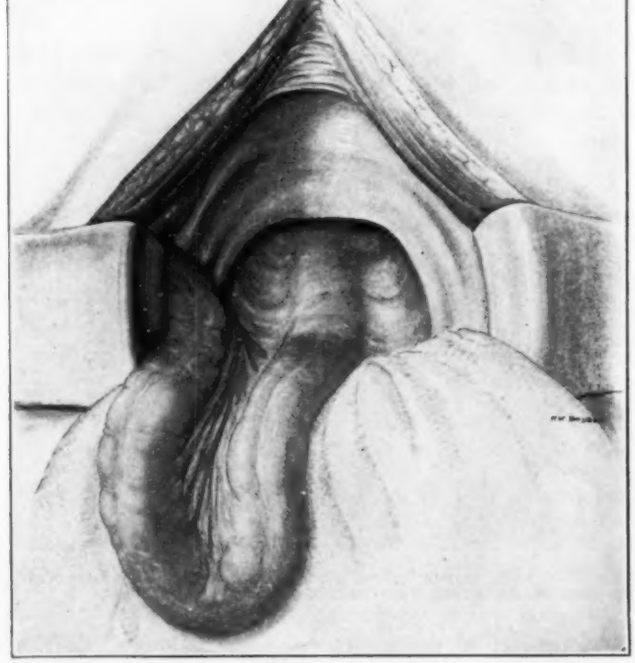

Fig. 1.—Drawing made at time of operation, showing a long sigmoid and a deep culdesac.

Moschcowitz, Dural, Mummery, Miles and others considering the problem.

Since publishing my preliminary paper,[1] I have given a great deal of study to the problems of prolapse, and believe that I have now a fundamental conception of the underlying cause and a plan of reconstruction that will prove helpful.

This, then, is my excuse for offering this paper in place of the usual chairman's address.

The natural supports of the rectum are the peritoneal reflection, the lateral ligaments and the levator muscle with its fascia. Todd has very properly pointed out that in spite of the knowledge that the uterus is upheld

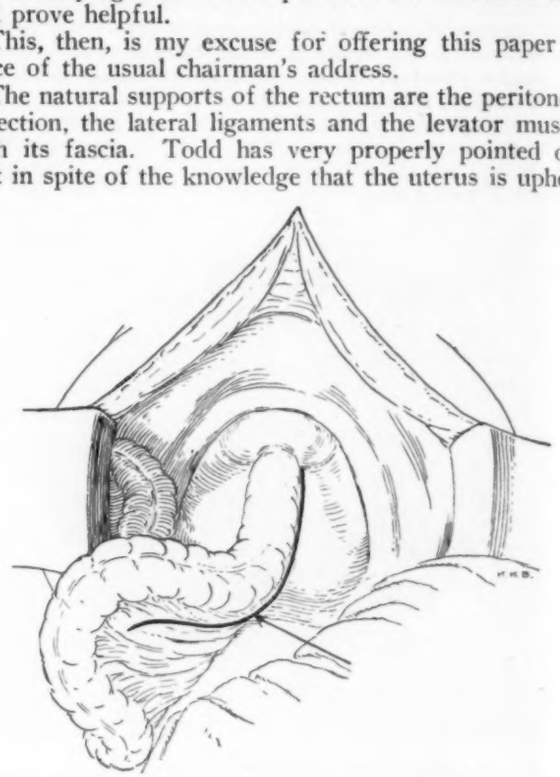

Fig. 2.—Incision through peritoneum of lower mesosigmoid and of rectal attachment on right side. Arrow points to incision.

by the perivascular and perineural tissue of the broad ligament, especially by the basal portion surrounding the sacral nerves (known as the ligament of Mackenrodt), it is not generally realized that the rectum is supported in precisely the same manner. The levator ani has but little importance as a rectal support. When perineal excision of the rectum is undertaken, the levatores ani may be severed, but that does not result in the cutting adrift of the intestine. One cannot draw it down and out through the wound.

Between the levator ani and the sacrum posteriorly and the rectum anteriorly is a mass of tissue that was termed by Smith the rectosacral aponeurosis. It connects the lower part of the perineal chamber of the rectum with the sacrum at the level of the third or fourth piece. On dissection, this mass of tissue may be artificially shown as a "layer." It forms one of the layers of visceral pelvic fascia and is less dense in the middle line, where it is only feebly attached to the hollow of the sacrum. Laterally, however, it is very strong and consists of the rectal stalk of Elliot Smith; that is, the connective tissue surrounding the middle hemorrhoidal artery and the branches from the sacral nerves to the rectum. In a lateral direction the aponeurosis can, as a rule, be traced to the second, third and fourth anterior sacral foramina. It is the rectal stalk which supports the rectum, and it enters the stationary portion of the organ; that is to say, the lower portion of the perineal chamber or ampulla.

The rectosacral aponeurosis forms a posterior capsule for the rectum and pararectal glands, while its most lateral parts, the rectal stalks, are the true rectal support. When it is severed, the whole rectum and a considerable length of the pelvic colon can be withdrawn through a perineal wound.

* Chairman's address, read before the Section on Gastro-Enterology and Proctology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

1. Lynch, J. M.: A New Operation for Prolapse of the Rectum, J. A. M. A. **82**: 1929 (June 14) 1924.

If Todd's contention is correct, as I believe it is, the pelvic fascia and the connective tissue, surrounding the middle hemorrhoidal artery, are the fundamental structures supporting the rectum. There is a question as to whether the ordinary textbook description of the pelvic fascia is entirely correct. Many anatomists doubt the existence of fascia over the sacrum; and many believe that there is no fascia posterior to the great sacrosciatic notch. What is considered by some to be fascia is fibrous tissue simulating fascia, and herein is the basis of my theory of the cause of prolapse of the rectum. The quality of connective tissue is as variable as the wind, and on this variability depends the structural efficiency of the human body. It seems strange that a tissue so structurally vital should be so variable in quality; and quality, not quantity, is what counts all through life.

This tissue, lowly as it stands in the scale of human tissues, has its own enzyme and maintains a sympathetic understanding with all other human structures. A chain is as strong as its weakest link, and the structural tone of the body must be dependent, to a great extent, on the quality of its binding connective tissue. If then, as Todd has pointed out, the lateral ligaments are the chief support of the rectum, and if these ligaments are principally composed of connective tissue, the quality of this tissue is of fundamental importance in any problem dealing with prolapse.

Blood vessels of any importance, especially when passing through muscles, are always surrounded by connective tissue. The blood vessels and nerves in the lateral ligaments are convoluted and twice the ordinary length of the lateral ligaments, a wise provision of nature against injury. From this it is evident that the lateral ligaments have a range of action of twice their

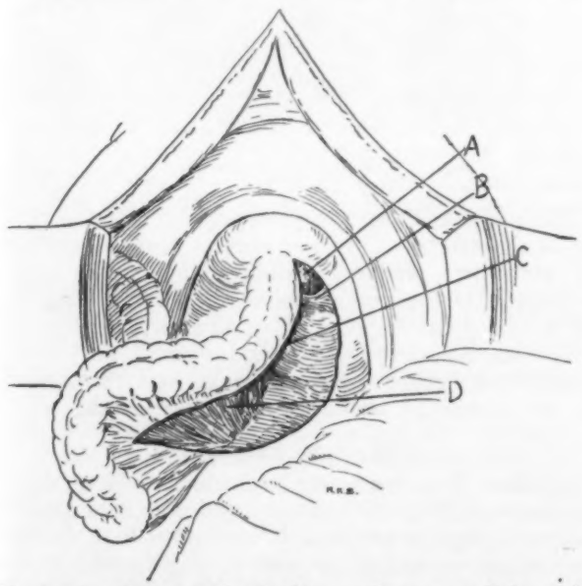

Fig. 3.—*A*, peritoneum stripped aside, exposing coccyx; *B*, lateral ligament; *C*, rectal attachment; *D*, sigmoidal blood supply.

normal length before any strain is thrown on their nerves or blood vessels.

The length of the sigmoid must always be considered in dealing with the problem of prolapse, since it would be difficult to imagine a prolapse associated with a very short sigmoid. In other words, there must be some slack above to allow prolapse below. A more or less fixed anchorage would discourage any great freedom of movements. Nothing moves from its anchorage without outside effort.

Faulty structure and a long sigmoid might be considered intrinsic, and all other factors extrinsic.

ETIOLOGY

Up to the present there seems to be a wide divergence of opinion as to the etiology of prolapse. According to Jannell, the elongation of the mesosigmoid is the

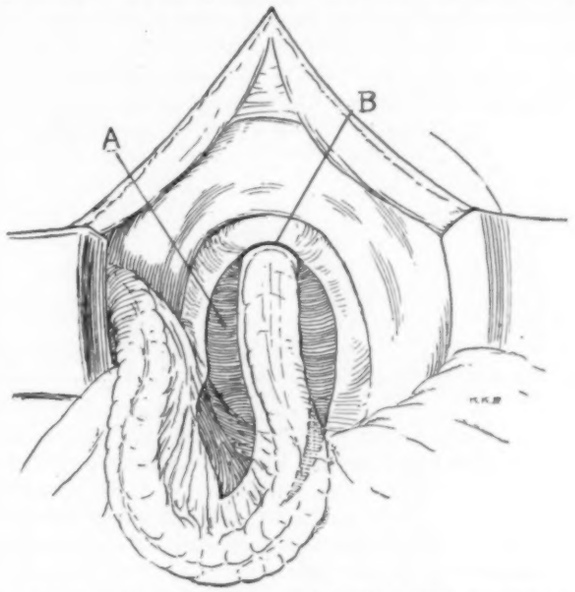

Fig. 4.—*A*, peritoneal denudation on left side, similar to that on right; *B*, incision joining right and left denudation.

primary factor, and this view is supported by Raynold. On the other hand, Lenorment believes that the levator muscle is principally concerned, as, in his mind, this is the chief protection against sagging of the rectum. Zuckerkandl is of the opinion that it is hernia, due to an abnormally deep culdesac into which the small intestines drop, and that the pressure exerted by the small intestines gradually works this sagging down until the musculature gives way and the rectum appears outside the anus.

This view is also upheld by Moschcowitz. As in many other controversies over an unsettled problem, there is truth on all sides; but it is more than probable that a combination of all the circumstances will be found in this condition. There is no doubt that in certain cases prolapse is purely hernia. Such a case has been recorded by Ball, in which the entire intestine, including the cecum, was prolapsed, forming a double spiral.

If, as Zuckerkandl, Moschcowitz and others assert, the cause is a hernial protrusion, then in all cases the opening would be posterior and inside the anus, the prolapse forming an almost complete circle. But it is well known that in the majority of cases the opening is central, which argues against an anterior hernia; at least in cases in which the prolapse is pronounced, with a central opening.

In early childhood the pelvic portion of the rectum is straighter and more vertical, more of an abdominal organ and more movable than in later life. The sacral curve is less marked. The peritoneal reflections and the fascia give less support on account of the undeveloped condition of the prostate and uterus, and the connective tissue between the mucous and the muscular coats of the rectum is especially lax. Prolapse is,

therefore, not an infrequent occurrence, especially when straining has been caused by the presence of any irritation. It occurs in adults, but chiefly in old age, when the muscular tonicity has been weakened, and it is favored by any chronic vesical or pulmonary conditions that produce frequent straining on coughing.

Quénu's comment on a report by Proust shows the influence which hysterectomy may have on the development of rectal prolapse. Proust's patient, a woman, aged 48, whose prolapse dated back eight years, had previously undergone a supravaginal hysterectomy. Laparotomy showed a very deep Douglas' pouch, which was obliterated. The sigmoid loop was anchored above the uterine stump to the remnants of the round ligaments and to the peritoneal covering of the bladder. Two months later a perianal wiring was made to correct a tendency to eversion of the anal mucosa. A year after the operation there was a slight abdominal eventration; the prolapse remained cured, and the silver wire was still unbroken. Quénu says:

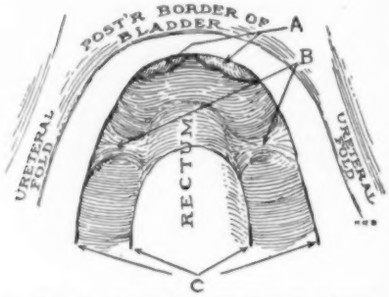

Fig. 5.—*A*, seminal vesicles; *B*, relaxed lateral ligaments; *C*, cut edges of peritoneum.

> The uterus and rectum have a common means of suspension; therefore any cause bringing about the fall of one endangers the fixity of the other. Hysterectomy deprives the rectum of the anterior support afforded it normally by the uterus. The weakening of the pelvic floor favors the prolapse of both organs.

Fieschi thinks the cause for this condition is dependent on a resistant pelvic floor and a lack of proper function of the lifting apparatus of the rectum. He regards, with Rotter, an improper condition of the closing apparatus of the rectum as the principal factor of the prolapse. He discusses the physiologic act of defecation, which consists in the pressure of the colon on the feces from above, over which the sphincter is stripped with the aid of the levator ani. In the insufficiency of the latter, caused by various factors, there is produced at first a slight and, on persistence of the condition, a permanent prolapse.

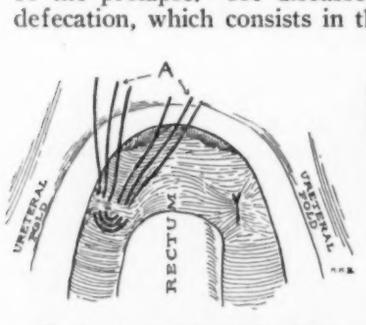

Fig. 6.—*A*, sutures passed to shorten lateral ligaments.

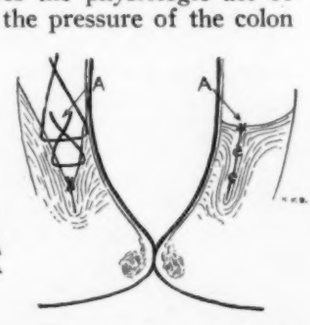

Fig. 7.—*A*, *A*, lateral ligaments are restored to normal levels when sutures have been tied.

Vidakowich regards a full bladder as a powerful protection against prolapse of the rectum. When the bladder is filled, the small intestines which transmit the pressure of the abdominal muscles are lifted out of the pelvis and the fold of Douglas is raised. The rectum is pressed into the convexity of the sacrum and thus its convolutions are increased, and finally the opening of the pelvis is closed by a distended bladder and the force of the pressure of the abdominal muscles is dispersed in various directions. He proves, by direct manometric measurements, that pressure from the abdominal muscles transmitted to the part of the rectum below the bladder is less when the bladder is full than when it is empty. He believes that in the beginning of the prolapse its increase can be avoided by advising the patients to empty their bladders only after defecation. Good prophylactic measures are defecation while lying with the feet hanging and especially in Mummery's stooping position, while the bladder is kept filled at the same time.

To epitomize, granting there is structural weakness, it is easy to understand how any unusual strain would bring about prolapse, the degree of the prolapse being the result of the amount of force exerted which is beyond the maximum of resistance that can be withstood by the supports.

Fig. 8.—Closure of peritoneal diaphragm.

The problem of curing prolapse involves the replacing of all structures in their normal position, overcoming structural weakness, diminishing slack, and so arranging the peritoneal pelvic diaphragm that there will be an equal distribution of pressure.

Any operation to be successful must not only be automatically correct, but also take into consideration the best means of obviating recurrence of the trouble.

OPERATIVE PROCEDURE

I believe that the procedure which I have devised and successfully carried out is based on sound anatomic and physiologic principles. It is obvious that all operations, to be successful, require foresight and vision on the part of the surgeon, so that he can quickly visualize such additions and modifications as may be demanded. For this reason, I can only give the principles of the operation, leaving to the operator such modifications as may be necessary in the individual case.

The abdomen is opened by a median incision, after which the patient is placed in the Trendelenburg position and the small intestines are walled off by laparotomy pads (fig. 1). Both leaves of the mesentery are cut close to the bowel, care being taken not to injure the blood supply. This incision is carried across between

the rectum and the uterus in the female, and the rectum and the bladder in the male. The peritoneum of both leaves of the mesentery in the region of the culdesac is dissected back, so as to expose the lateral ligaments (figs. 2, 3, 4 and 5). The pelvic colon and rectum are pulled out of the pelvis and held taut while the operator proceeds to shorten the lateral ligaments by two or three interrupted chromic catgut sutures (figs. 6 and 7). After this a new pelvic peritoneal diaphragm is formed by suturing the peritoneum to the top of the pelvic colon and closing the rent between the bladder or the uterus, as the case may be. This entirely obliterates the culdesac and equally distributes the weight all over the pelvic diaphragm, thus preventing recurrence. If the uterus is retroverted, it is held in place by shortening the round ligaments.

Many minor modifications are sometimes necessary, such as suturing the bowel to the broad ligament at the back of the uterus and repairing the perineum if torn.

By this operation the organ is replaced in its normal position, the mesentery of the pelvic colon and sigmoid shortened, and the weight of the intestines equally distributed all over the pelvic diaphragm, so that chance of recurrence is reduced to a minimum.

205 East Sixty-First Street.

VALUE OF IRRADIATION IN TREATMENT OF INOPERABLE CARCINOMA OF THE OVARY*

FLOYD E. KEENE, M.D.
HENRY K. PANCOAST, M.D.
AND
EUGENE P. PENDERGRASS, M.D.
PHILADELPHIA

This report is based on an analysis of twenty-four cases of carcinoma of the ovary which have been referred to the roentgen-ray laboratory of the University of Pennsylvania Hospital for treatment. In all, the diagnosis has been proved by operation, and each patient has received at least one complete series of treatments.

CONDITION OF PATIENTS

Preceding irradiation, the following operations had been performed: exploratory, six; bilateral salpingo-oophorectomy, seven; bilateral salpingo-oophorectomy and hysterectomy, eight, and unilateral salpingo-oophorectomy, three.

With only one exception (ruptured carcinomatous cyst), visible peritoneal metastases were present at the time of the operation; complete removal of the carcinomatous ovary was impossible, or late recurrence had followed operation. Irradiation was given in twenty cases from one to three months after operation, while in four, intervals of six months, seven months, one and one-half years and seven years, respectively, had elapsed between operation and recurrence.

Papillary carcinoma was present in seven cases, and glandular carcinoma in six; in eleven, no differentiation has been stated. From these data, deductions relative to the effects of irradiation on the individual types of growth were not permissible.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 20, 1927.

PALLIATIVE RESULTS

In estimating the effect of irradiation, we have divided our patients into two groups; the first includes those with widespread peritoneal metastases in whom only an exploratory operation was performed, and the second, those in whom excision of the primary growth was supplemented by irradiation.

GROUP 1.—*Exploratory* (six cases).—Ascites was present in five. In two it was uninfluenced; in one a diminution was noted and further paracentesis was not required. In two, data are not available but death took place within a few months, so that it must be assumed that benefit did not result from the treatment.

Abdominal pain was present in three cases, and in only one was it materially influenced.

Palpable abdominal masses were present in three patients. In two there was no reduction in size, and in one there was temporary reduction with subsequent increase.

Five patients died within eight months after irradiation. One patient is living five months after irradiation but is failing rapidly without relief from any of her symptoms.

GROUP 2.— *Partial or Complete Excision of Primary Growth* (eighteen cases).—Ascites was present in nine cases. In seven it has been favorably influenced, as evidenced by complete disappearance, diminution in quantity, or lengthening of intervals between paracentesis. Pain was a prominent symptom in eight. Relief was experienced in five, without improvement in three. Palpable abdominal or pelvic masses were noted in twelve patients. In four the masses have disappeared; in three there has been a diminution in size, and in five the growth was uninfluenced.

Of these eighteen patients, seven are living and eleven are dead. The duration of life since irradiation is stated in the summaries of the living patients; that of the dead is as shown in the accompanying table.

Duration of Life After Irradiation in Patients Now Dead

2½	months	2
6	months	1
9	months	1
12	months	2
18	months	1
21	months	1
24	months	1
44	months	1
48	months	1

SUMMARIZED HISTORIES OF LIVING PATIENTS

CASE 1.—Diagnosis, bilateral ovarian carcinoma; pathologic diagnosis, adenocarcinoma; operation, bilateral salpingo-oophorectomy. Peritoneal metastasis is present. Ascites is returning very slowly. Abdominal masses are present and uninfluenced by irradiation. General health is steadily failing. The interval between operation and irradiation was two months; from irradiation to the present, seven months.

CASE 2.—Diagnosis, peritoneal carcinomatosis secondary to carcinoma of ovary; pathologic diagnosis, adenocarcinoma; operation, unilateral salpingo-oophorectomy. Since irradiation, pain has been much less, and persistent vomiting has ceased. Ascites is much reduced. The abdominal masses were temporarily smaller but now they are rapidly increasing. The interval from operation to irradiation was six months; from irradiation to the present, four months.

CASE 3.—Diagnosis, carcinoma right ovary; pathologic diagnosis, papillary carcinoma, operation, bilateral salpingo-oophorectomy, hysterectomy. The growth was so densely adherent to the pelvic wall that complete removal was impossible. The patient is in excellent health. Pelvic and abdom-

inal examinations are negative. The interval from operation to irradiation was three weeks; from irradiation to the present, one year.

CASE 4.—Diagnosis, recurrence from carcinomatous cyst of right ovary; pathologic diagnosis, adenocarcinoma; operation, bilateral salpingo-oophorectomy, hysterectomy. Seven years after operation, the patient developed symptoms of partial intestinal obstruction. Large masses were palpable in abdomen and pelvis with ascites. Since irradiation, the masses and ascites have entirely disappeared and the patient is in excellent health. The interval from irradiation to the present has been twenty months.

CASE 5.—Diagnosis, bilateral ovarian carcinoma; pathologic diagnosis, papillary carcinoma; operation, hysterectomy, bilateral salpingo-oophorectomy. The mass on the left side was so densely adherent to pelvic wall that incomplete removal was impossible. The patient is in excellent health except for occasional epigastric pain. Abdominal and pelvic examinations are negative. The interval between operation and irradiation was two weeks; from irradiation to the present, twenty-eight months.

CASE 6.—Diagnosis, bilateral ovarian carcinoma; pathologic diagnosis, papillary carcinoma; operation, hysterectomy, bilateral salpingo-oophorectomy. Transplants were present on the pelvic peritoneum. The patient is in excellent health. Pelvic

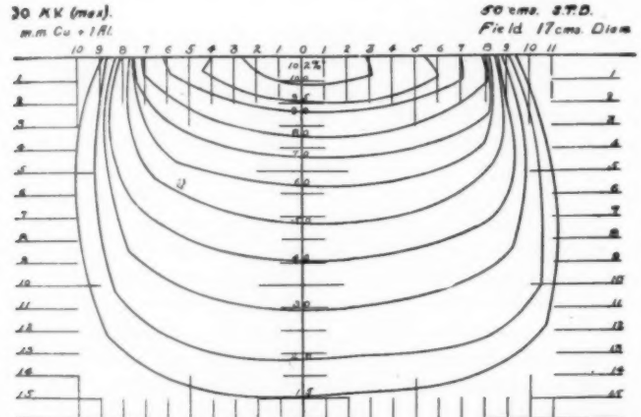

Fig. 1.—Ovarian carcinoma plotted according to Weatherwax roentgen-ray absorption charts.

and abdominal examinations are negative. The interval between operation and irradiation was two months; from irradiation to the present, three and one-half years.

CASE 7.—Diagnosis, bilateral ovarian carcinoma; pathologic diagnosis, adenocarcinoma; operation, hysterectomy, bilateral salpingo-oophorectomy. Pelvic metastasis was present at time of operation, with rapid increase in size of the growth following operation. The mass has disappeared, and the patient is now in good health. The interval from operation to irradiation was two weeks; from irradiation to the present, four years and nine months.

Of the eleven patients who have died, pain was a prominent symptom in seven. Five experienced temporary relief, while in two there was no benefit whatever. Ascites was present in seven cases. In two it disappeared; in three its reaccumulation was retarded, lengthening the intervals between paracentesis, and in two there was no effect. Palpable abdominal or pelvic masses were noted in seven cases. Disappearance of the tumors with later recurrence took place in three, and in four the growth was unaffected. Five patients lived from one and one-half to five years after irradiation; all were distinctly improved and there were periods when the patients were free from palpable evidence of growth. Subsequently, all developed recurrences and died.

COMMENT

Forty patients have been referred to the roentgen-ray laboratory of the University of Pennsylvania Hospital with the diagnosis of ovarian carcinoma. While the diagnosis in all seemed warranted, we have limited our study to twenty-four in whom the diagnosis was conclusively proved by operation and microscopic examination of the tissue removed. In this group are included only those in whom the primary growth was incompletely removed by operation, late recurrences following apparently complete removal or widespread peritoneal carcinomatosis without removal of the primary growth. The purpose of this study has been to determine whether or not the relief of symptoms following irradiation was sufficient to justify its use as a palliative measure. The number of cases is too small to permit definite deductions, but sufficient data have been obtained to warrant certain general conclusions.

We have been impressed with the fact that it is impossible to predict what the effect of irradiation will be in any given patient. In some of our most advanced cases in which there were large abdominal or pelvic masses the response has been remarkably good even to small doses of roentgen rays, while others, much less advanced, have not been appreciably affected even by enormous dosage. We believe that the effect of irradiation in the individual case will be determined by the first series of treatments; should no benefit be derived, further irradiation is usually a futile procedure.

In cases of rapidly forming ascites with more or less general peritoneal carcinomatosis, in which the primary growth has not been removed, little can be expected from irradiation. There may be a temporary respite of pain and the accumulation of ascites may be decidedly retarded, thus lengthening the intervals between paracentesis. In the exceptional case, marked reduction of the abdominal masses and disappearance of ascites will occur, with temporary relief of symptoms. It is doubtful whether irradiation in such cases has any influence on the prolongation of life.

A decidedly more hopeful outlook so far as relief of symptoms is concerned can be anticipated when the primary lesion has been completely removed, or in the presence of recurrences following excision of the primary growth. It is a well known clinical fact that, even in the presence of peritoneal metastases, excision of the primary growth may be productive of rather marked improvement in general health and retardation of the malignant process, and this must be borne in mind in evaluating the effects of irradiation. Such an effect, however, is certainly an unusual occurrence, and our results seem to indicate that the addition of irradiation may exert a beneficent influence as regards the palliation of symptoms and the prolongation of life.

This statement is also applicable to those cases in which, for one reason or another, complete removal of the primary growth was impossible. Because of the results we have obtained, we advise excision of the primary growth, when possible, even in the presence of peritoneal transplants in the belief that, by so doing, the radical procedure with subsequent irradiation offers a fair prospect of temporary relief of symptoms, particularly pain and ascites.

In cases of late recurrence after excision, lessening of pain and ascites not uncommonly occurs after irradiation; in a few, a marked reduction in size or even the disappearance of the abdominal masses may take place.

COMMENT ON TREATMENT

If any one is optimistic in regard to the effect of irradiation on ovarian carcinomas, let him stop and think of the exact nature of the condition and its usual course, and he must wonder why any results are possible in many of the cases. It is a neoplasm which tends to metastasize rapidly throughout the peritoneal cavity by extension and transplantation and to reach the liver. Fortunately, it does not often metastasize to the chest and rarely to the bones. Not one of our cases showed bone involvement. If the disease tended to remain localized in the pelvis or even the lower abdomen, probably much more could be done for it. Undoubtedly, there is a considerable difference in the radiosensitivity

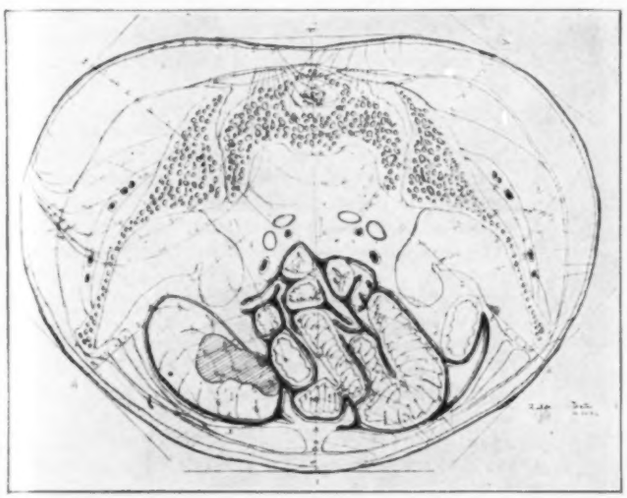

Fig. 2.—Weatherwax chart in which ports of entry and direction of rays have been indicated, and the depth dosage has been calculated.

of the growth in many individuals, but we have nothing to offer to prove this on a pathologic basis in our cases. This subject is mentioned because radiosensitivity and adequate dosage are the two essential factors in irradiation treatment.

In treating malignancy, it is essential to have a well developed routine procedure to apply to cases of any general type, and subject to modification to meet the exigencies of the individual case. The object is to deliver an accurate and, as nearly as possible, an adequate dosage into the parts involved. When the pelvis or a similar part of the trunk is involved, it is our custom now to make a perimetric outline drawing of the part and to draw into it, from a projected lantern slide made from one of Desjardins'[1] cross section charts, the outlines of the various anatomic structures found therein. This is accomplished by using the projection apparatus advised by Weatherwax and others.[2] This gives a cross-section drawing of the patient under treatment. Then, by using a set of Weatherwax roentgen-ray absorption charts[2] (fig. 1), one can lay out the ports of entry and direction of rays and calculate the depth dosage at various localities in the region treated (fig. 2).

If an ovarian carcinoma remains localized in the pelvis, it is a simple matter to project into this region a maximum depth dose commensurate with the size of the individual. This may or may not be sufficient to destroy the localized growth. Unfortunately, it is usually not quite enough. If it were just enough or not quite sufficient for a more or less localized growth in the pelvis, how can any one expect to deliver an equal dose to every portion of the abdominal cavity in case of a general involvement? With liver metastasis, the condition becomes hopeless.

If we are able in some cases to retard the progress of an extensive growth by irradiation, as our statistics seem to show, it seems wise from the standpoint of treatment to remove as much of the large primary growth as possible by operation, in order to have that much less carcinoma to deal with and to produce extension. This is somewhat analogous to palliative breast amputations, which are frequently advisable.

Our present dosage factors for each port of entry are: 200 kilovolts; distance, 50 cm.; filter, 0.5 mm. of copper plus 2 mm. of aluminum; 4 milliamperes; time, from 75 to 100 minutes; size of fields, from 14 by 17 to 17 by 17 cm. Radiation sickness has always been a difficult condition to control in treating ovarian carcinoma, when the abdomen is filled with cancer and fluid, and we have found that short daily applications by a fractional dose method are less likely to produce this undesirable effect. We also feel that this method is more efficacious than a massive dose administration. Pfahler's[3] recently described "saturation method" may be used to advantage, but great care is essential in its administration.

It should be borne in mind that many of our cases were treated by the old low voltage method many years ago.

Medical Arts Building.

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2. Weatherwax, J. L.; Bradley, R. A.; Bowen, D. R., and Leddy, E. T.: A Convenient and Accurate Method of Measuring Roentgen-Ray Depth Dosage, Am. J. Roentgenol. **15**: 169-174 (Feb.) 1926.
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Clinical Notes, Suggestions and New Instruments

NEW INSTRUMENT PRODUCING A BLOODLESS TONSILLECTOMY *

F. PETER HERMAN, M.D., WEST PALM BEACH, FLA.

Since February, 1926, I have been engaged in perfecting a method whereby tonsillectomy will be reduced to a simple, efficacious and perfect procedure, for both the patient and the operator.

The birth of the idea took place after several hectic hours of attempting to stop a fifth day postoperative hemorrhage; a condition met by all men doing throat work, regardless of their ability as operators.

An instrument was constructed on the order of the Beck-Schenck type, the loop being cast in rubber, in a supporting metal member. The carriage of the instrument was also insulated, and the active electrode of a high frequency current was attached to the proximal end of the snare wire. The indifferent electrode was attached to a large damp, applied to any part of the patient's body. A current strength ranging from 200 to 400 milliamperes was applied, after the tonsil was engaged in the loop, and made secure in the usual way. On application of the current, the snare was drawn through with moderate speed.

The results were very gratifying, but not all that might be desired. In several cases there was some slight bleeding, and during the postoperative stage there was considerable sloughing, and, in several instances, postoperative hemorrhage

* Read before the Palm Beach Academy of Medicine, May 9, 1927.
* Demonstrated before the Section on Laryngology, Otology and Rhinology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 20, 1927.

due to the sloughing. In other words, the current was not of the proper type, as the oscillations were too infrequent.

With the advent of the Collings electrotome, manufactured by the Wappler-Electric Company, the operation approached near perfection. This machine delivers a current with an estimated oscillation of 1,400,000, which is about 50 per cent greater than anything tried heretofore.

An instrument was then constructed which embodies good features from several instruments; these embodiments produced an instrument much more efficient in modus operandi,

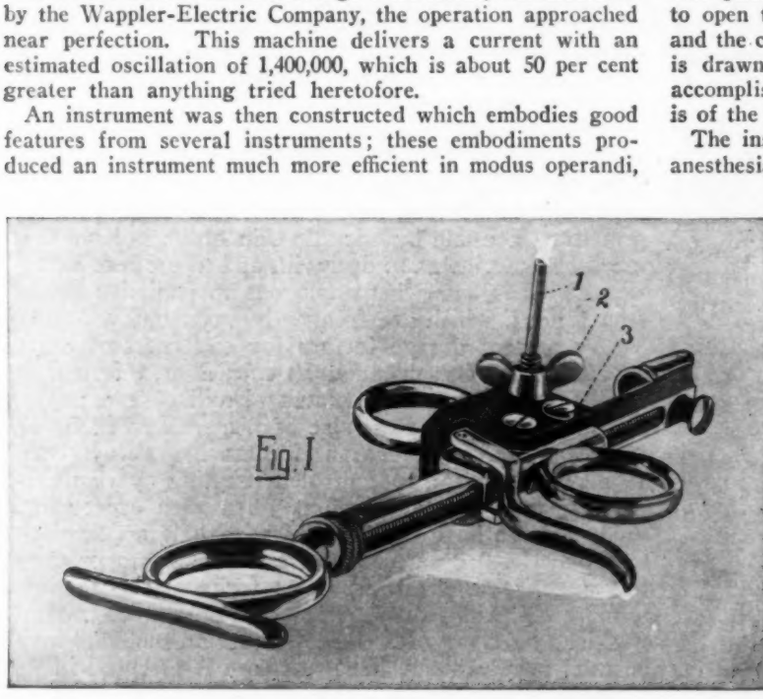


Fig. 1.—Handle showing lock carriage: 1, active electrode terminal; 2, lock-nut which secures terminal and snare wire; 3, insulted portion of carriage.

as well as producing all to be desired from a postoperative standpoint. The idea of the loop was carried out, but behind the loop a bowl was made, into which a tube was connected; this tube, which is some distance removed from the smaller opening, admits the usual snare wire. The larger tube connects with a suction. The whole is cast in hard rubber and fits the usual handle, the carriage of which has been insulated as described, so that the current is delivered direct to the snare wire, thus removing all possible danger of contact between patient and operator.

ADVANTAGES

To summarize, the instrument has the original loop; it has the bowl, which acts as a receptacle for the tonsil after it has been severed from its base, thereby eliminating the use of the tonsil-seizing forceps, plus a most important additional action, in that it collects the pus and other débris which is always in evidence when the tonsil is involuted through the loop. Such substances frequently give rise to fatal complications resulting from aspiration.

It has the suction application, which enables one to engage the tonsil without a great deal of pressure against the anterior pillar (an act that sometimes causes considerable trauma, with resultant delayed convalescence).

It has the electrocoagulation feature, which brings about the bloodless postoperative condition. By virture of this coagulation, any microscopic cells, which are frequently left and result in new lymphoid growths, are destroyed. Further, by the sealing of the blood and lymph vessels, any local infection of the wound and also the production of blood stream infections or metastatic complications are prevented.

It renders the act of removing the tonsils just slightly inconvenient, with nothing to be feared on the part of the patient and a real surgical pleasure on the part of the operator.

The efficiency of this new procedure is amply proved, as the usual deep general anesthesia is no longer necessary. The patient is simply relaxed with nitrous oxide sufficient to open the jaws with the gag, the right tonsil is engaged, and the current is turned on with the foot switch. The snare is drawn through the base at a fairly rapid rate; this is accomplished with considerable ease, as the current itself is of the cutting type.

The instrument, containing the tonsil, is removed and the anesthesia readministered in sufficient amount to relax again, and the left tonsil is secured in a like manner. It is possible to operate on most adults under local anesthesia. When the latter method is used, an acetylsalicylic acid tablet dissolved on the tongue immediately following operation takes care of the pain attendant for a short time following the application of this type of current.

Following this procedure, the patient with hemophilia, diabetes or hypertension should cause no more concern than the ordinary patient.

ILLUSTRATIVE CASES

CASE 1.—J. S. W., who had diseased tonsils containing pus, general toxemia a prominent symptom, and considerable joint complications, was advised to have tonsillectomy performed. The blood pressure was 220 systolic and 110 diastolic. The coagulation time was five minutes and ten seconds. The urine was cloudy with a specific gravity of 1.026; casts were in evidence, and there were several pus cells. The picture presented a wholly unoperative condition; but on failure to secure a more promising one following general treatment, operation was decided on.

The operation was performed under local anesthesia. A current of 300 milliamperes was used. The wire was drawn through at a slower rate than usual, to insure the complete searing of the denuded surfaces. The procedure was bloodless. There was no postoperative hemorrhage and in ten days all evidence of joint complications and toxemia had disappeared and the general condition showed marked improvement, the blood pressure dropping to 190.

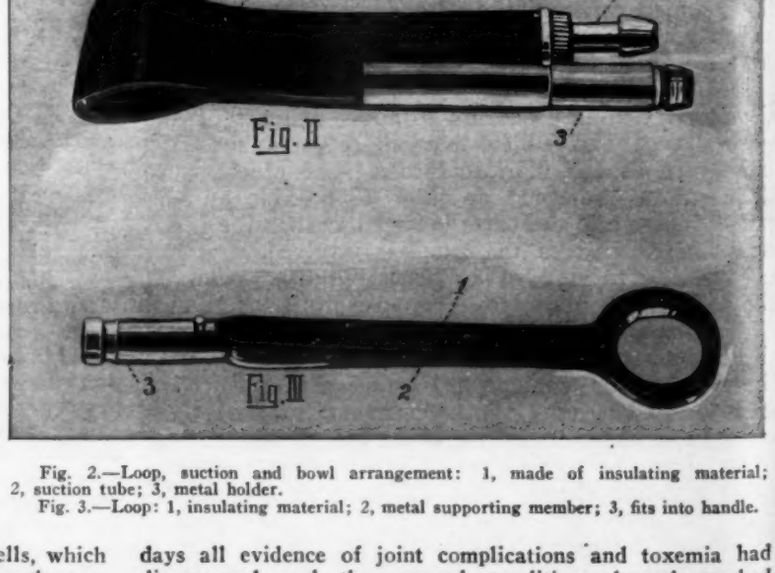


Fig. 2.—Loop, suction and bowl arrangement: 1, made of insulating material; 2, suction tube; 3, metal holder.
Fig. 3.—Loop: 1, insulating material; 2, metal supporting member; 3, fits into handle.

CASE 2.—A child, aged 3½ years, would bleed profusely on the slightest injury. The coagulation time was six minutes. Calcium lactate administered over a week failed to shorten the time. The kidneys showed involvement. The tonsils were in bad condition and giving considerable trouble.

Operation was decided imperative.

Nitrous oxide anesthesia was given.

Both tonsils were enucleated in capsule with one relaxation. After three weeks the child had gained 4 pounds.

CASE 3.—Mrs. S., aged 28, who had general joint involvement and valvular heart disease, almost died from tooth extraction one year previous because of hemorrhage. The coagulation time was six minutes.

Local anesthesia was used. The tonsils were removed without bleeding. The joint involvement cleared up almost immediately. The heart condition showed marked improvement after four weeks.

CASE 4.—G. C. W., a man, aged 71, had had chronic bronchitis over a period of eight years. He had been unable to speak above a whisper for the past three months. The systolic blood pressure was 195; diastolic, 120. There was a condition of general toxemia. The coagulation time was four minutes.

Operation was performed under local anesthesia. There was no bleeding. Recovery from operation was uneventful. The patient was able to speak in an audible tone on the fourth day. Toxemia cleared up almost immediately.

COMMENT

These cases are fairly representative of many done with this new method, which bids fair, in my mind, to remove one of the most vexing problems in the practice of medicine today; namely, a known badly infected tonsil causing any number of systemic conditions, but allowed to remain and continue its insidious, destructive ramifications, through fear of untoward results if its removal is attempted.

"BEE-CELL," RESULTING IN BLADDER STONE AND IN VESICOVAGINAL AND RECTOVAGINAL FISTULAS *

WALTER L. FINTON, M.D., JACKSON, MICH.

Of the numerous anticonceptional devices with their various detrimental complications, this case of bee-cell has shown more local pathologic changes than those presented by any case that has come to my attention, either directly or by a review of the literature.

A robust looking married woman, aged 35, had had four healthy children, the youngest, 7 years of age. The labors were uncomplicated. She had not had any serious illnesses. About two years after the birth of her youngest child, she inserted into the vagina a device called by the manufacturers a bee-cell. This was a heavy rubber cube about 2 inches in each dimension. On each of its six surfaces was a conical depression apparently to fit over the cervix, giving the user a wide range of latitude in the manner and skill of its insertion. A depression for the cervix was available regardless of which surface happened to be uppermost when it was introduced.

The bee-cell had been secured by mail from the manufacturers. No discomfort was experienced and she "sort of supposed" that the cell had passed from her, although she did not know when. Four years went by and she menstruated regularly and was gratified to know that she did not become pregnant.

About a year ago a slight fecal discharge appeared from the vagina. This gradually increased. However, it was not of sufficient concern to cause her to seek medical advice.

Six months later she thought the urine first began to leak through the vagina. This at first seemed intermittent, but after a week most of the urine escaped that way.

She still neglected to see her physician.

About a month ago she decided to consult the doctor, by proxy; that is, she sent her husband to get some medicine for the vaginal condition, which was causing her some irritation. Her physician requested that she come in for an examination. Finally after a further delay of four weeks, she went to the doctor's office, complaining of a rough, stony-like substance in the vagina, and a watery fecal discharge.

She was referred to the clinic with a diagnosis of stone in the vagina. The temperature, pulse, blood pressure, Wassermann reaction and other observations on the blood were all normal. There was an alkaline urinary discharge from the vagina. Just within the introitus was a stone the size of a robin's egg. On examination this broke off, leaving a still larger stony mass firmly embedded deep in the vagina and involving the cervix.

Roentgen-ray examination of the pelvis, kidney, ureter and bladder revealed another stone the size of a hen's egg in the

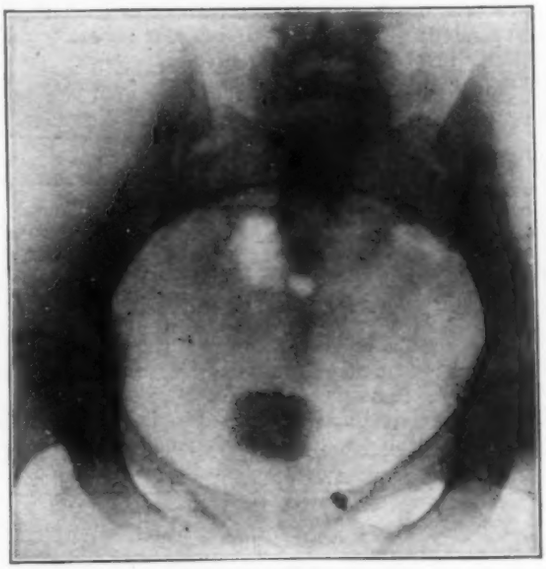


Fig. 1.—Bladder stone

bladder. The urine was alkaline and loaded with pus cells. There was no albumin, nor were any casts found in repeated examinations.

Under anesthesia a cuboidal mass, slightly rounded, about 2¼ inches (57 mm.) in diameter, was removed from the upper and middle portions of the vagina. The mass appeared to be a calculus, but when the outer deposit was broken off the

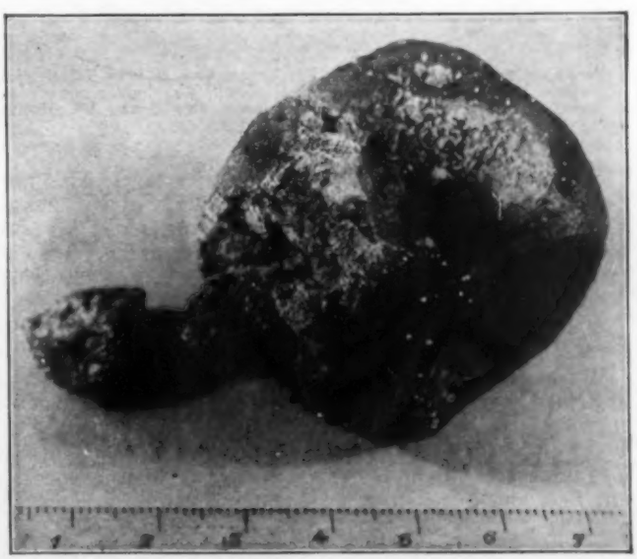


Fig. 2.—Bee-cell and concretions

rubber cube was found in the center. Two corners of this cube had caused pressure necrosis with vesicovaginal and rectovaginal fistulas, each 2 cm. in diameter. There was also extensive necrosis of the anterior cervical lip, and great swelling of the cervix and upper vaginal walls had occurred. An egg-shaped calculus 6 cm. long had formed in the bladder.

* From the Jackson Clinic.

The marked edema and tissue necrosis prevented any attempt at closing the fistulas at this time. The bladder stone was, however, crushed and removed through the large fistulous opening.

After rest in bed and local treatment had sufficiently reduced the edematous cervix and vagina, the usual surgical procedure for closure of the fistulas was carried out.

It is somewhat difficult to see how an adult individual of apparently fair intelligence could go about carrying a foreign body of this size for four years without at least registering some complaint, and it is interesting that no serious ascending kidney involvement had taken place.

290 Michigan Avenue, West.

A TRANSPARENT SHIELD FOR MONOCULAR ISOLATION IN GONORRHEAL OPHTHALMIA

JAMES M. PATTON, M.D., OMAHA

All who have had experience in treating gonorrheal ophthalmia of one side realize the imperative necessity of isolating the noninfected eye. Of course, this can be done with an opaque shield but this prevents the use of the eye and must be removed at frequent intervals to permit inspection for evidence of beginning infection.

Buller recognized this when he devised the "Buller shield," which consisted of a watch glass fastened before the healthy eye with collodion and cotton or adhesive tape. This procedure has saved innumerable eyes and is of the utmost value; but sufficiently large watch crystals are sometimes hard to get, do not fit the area to be covered, are not easy to fasten tightly to the nose, cheek and brow, and are often uncomfortable to wear.

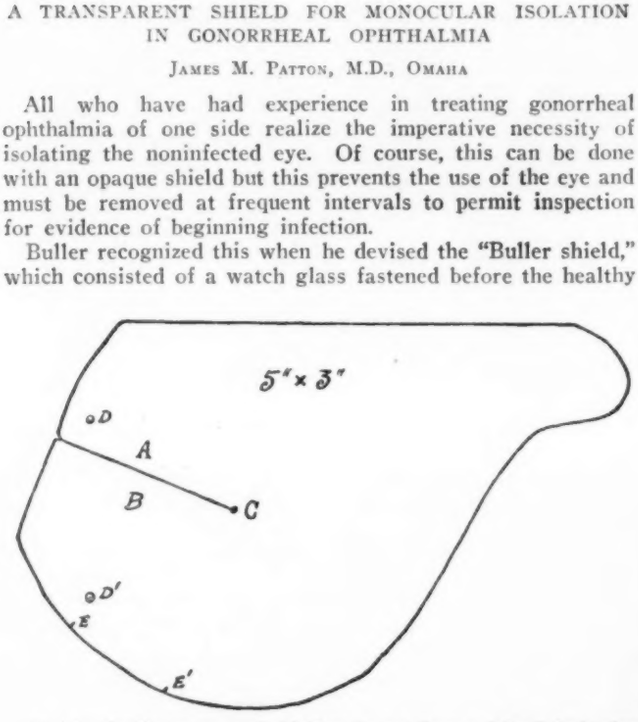


Fig. 1.—Outline pattern of shield to be cut from a 3 by 5 inch piece of celluloid: *A* should overlap *B*; *C* should be slightly nearer the temporal than the nasal side of the pattern; points *D* and *D'* coincide; space *E* to *E'* should be left unsealed for ventilation.

A few years ago I[1] reported the use of a shield which met these objections in that it fitted the area to be protected, was easily attached and was comfortable; but it was a special appliance, not always available and for that reason not sufficiently practical. Recently, I have been using a shield which fully answers all the necessary requirements in that it is transparent, light, fits any size or shape of face, is easily attached, and is constructed of material to be found in any physician's office.

The material consists of a strip of transparent celluloid, 3 by 5 inches for the average sized adult down to 1¼ by 3 inches for an infant. A piece of used roentgen-ray film from which the emulsion has been removed by soaking in hot water to which a little sulphuric acid has been added does very well, or a strip of transparent celluloid can be procured for a few cents from any garage or any maker of automobile tops. A pattern is made of flexible cardboard as outlined in figure 1, and bent so that part *A* overlaps part *B*. Point *C* should be slightly nearer the temporal than the nasal side of the pattern. This pattern does for either eye, according to which side of the material is used. The pattern is then cut and bent to fit the individual patient. One should be sure that it fits snugly along the side and bridge of the nose and brow, and that it does not press uncomfortably at any point.

The pattern thus obtained is traced on the celluloid; holes *D* and *D'* are fastened together with a bit of cord or a paper clip; the entire edge is bound with a quarter inch strip of adhesive tape, and the shield is fastened to the brow, cheek and nose with collodion and cotton or adhesive tape. The former is the better. The shield should not be fastened to the cheek from *E* to *E'* to allow for ventilation.

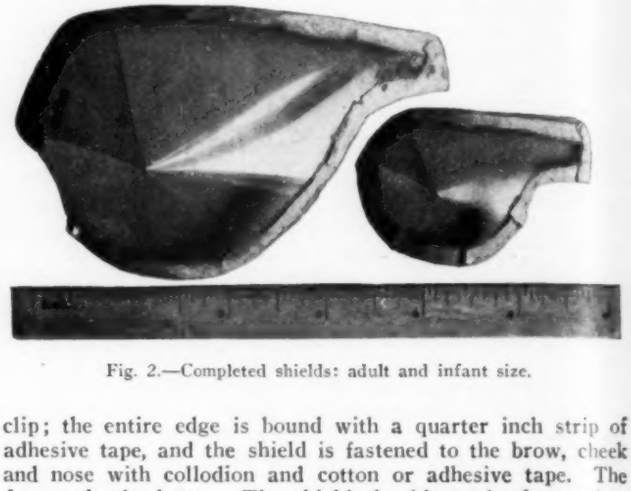


Fig. 2.—Completed shields: adult and infant size.

This type of shield was suggested by the double opaque shield devised by my colleague Dr. Harold Gifford, and reported by him[2] several years ago.

Fig. 3.—Shield applied to adult.

The use of this shield is not limited to cases of gonorrheal ophthalmia but is useful in any case in which monocular isolation or protection is desirable, as in any conjunctival infection of one side or following intra-ocular operations or injuries. Figure 2 shows the completed shield, adult and infant size. Figure 3 shows the shield applied to an adult.

1620 Medical Arts Building.

1. Patton, J. M.: Ophth. Record **26**: 561 (Nov.) 1917.

2. Gifford, Harold: Ann. Ophth. & Otol. **3**, April, 1894; Wisconsin M. J. **17**: 1 (June) 1918.

ACUTE DERMATITIS FROM THE WEARING OF "HORN-RIM" SPECTACLES

IRWIN C. SUTTON, M.D., HOLLYWOOD, CALIF.

Every dermatologist has seen actual burns from celluloid, for children's toys, combs and toilet articles are notoriously inflammable and almost explosive in nature. The case reported here is the first definite instance I have ever seen of an acute, inflammatory dermatitis produced from the wearing of spectacles. The patient was seen through the courtesy of Dr. Orrie E. Ghrist of Glendale, Calif., who first suspected the cause of the trouble.

REPORT OF CASE

History.—Mrs. M. S. V., a widow, aged 57, complained of a burning eruption of the face. Three days before examination, she had worn a new pair of spectacles for only half an hour, while glancing over the evening paper. On retiring she felt a severe burning about the face and on arising was frightened to find that her eyes were swollen shut.

Examination.—The patient was well nourished. There was marked edema of the eyelids and surrounding structures. On the upper part of each cheek, where the edges of the frames had rested, were two corresponding whitish areas, which looked as though they had been cauterized with phenol (carbolic acid).

The frames were carefully cleansed with soap and water and pasted on the anterior surface of the left forearm for twenty minutes. Three hours later an eruption appeared identical with the outline of the "front" of the glasses. The bows did not cause any irritation when applied to the skin for as long as six hours. The frames were then dipped in

Fig. 1.—Appearance of the face three days after wearing spectacles.

acetone, to make sure no polish or external enamel was producing the trouble, but, when applied to the forearm, again produced reaction.

Treatment.—Wet dressings of aluminum acetate solution were applied continuously, with a fairly prompt response of healing.

COMMENT

The frames were of Zylonite, which is made as follows: Pure white tissue paper, made from cotton, is shredded and then nitrated by immersion in a mixture of strong nitric and sulphuric acid. At this stage the mixture is known as being in a "cellulose" state. It is then placed in a centrifugal machine and revolved at a high speed for the purpose of wringing out the acid. It is then washed, first in cold, then in hot, water. The water is then extracted, and at this stage the mixture is ground up with gum camphor. In the subsequent slabbing, rolling and grinding operations, alcohol and camphor are added. At this time, dye is added if needed to make yellow or the tortoise-shell type of material.

The spectacles, in this case, were of a black color similar to that of Bakelite, so it was impossible to determine whether or not dye was present. Certainly no polish, such as orris

Fig. 2.—Left forearm, showing eruption appearing three hours after twenty minute application of spectacles.

root, could have resisted the washing and partial dissolving to which the surface was subjected. In other words, the irritating material existed straight through the substance.

My impression is that the reaction was caused either by a dye or by an improper "cure" of the Zylonite.

It is remarkable that the patient was not sensitive to the bows of this set or to an apparently identical pair of spectacles purchased later.

While I was in the service of John H. Stokes, at the Mayo Clinic, severe eruption about the mouth following the use of a Bakelite cigar holder was observed, and Oelze[1] has reported several cases of eczema about the ears from the use of radio head pieces made from similar material.

MASS OF SAFETY PINS IN THE STOMACH

GEORGE BLACKBURNE, M.D., NEWARK, N. J.

This case is reported because of the large number of safety pins present in a stomach for years, without subjective symptoms. Owing to the unusual character of the case and the large number of people who knew about it, the public press reported some of the details before I was ready to present the case through medical channels.

M. B., a woman, aged 35, born in Poland, admitted to my service at St. Michael's Hospital, Jan. 28, 1927, was frail and anemic looking, and gave as her reason for coming to the hospital a prolapse of the rectum. This was promptly reduced under gas anesthesia. The urine was normal; erythrocytes, 3,000,000, with some achromia, anisocytosis and poikilocytosis; leukocytes, 12,200; polymorphonuclears, 78 per cent; hemoglobin, 25 per cent. Physical examination showed a movable mass in the epigastrium, somewhat larger than a baseball. Roentgen-ray examination showed the mass to consist of a ball of safety pins, two of which had apparently perforated the stomach wall.

February 7, in preparation for operation, 560 cc. of whole blood was transfused by Dr. John Gray. February 9, laparotomy was performed, the stomach opened, and the mass of pins removed without any particular difficulty, two pins which had perforated the wall being gently withdrawn.

The mucous membrane of the stomach showed multiple sluggish ulcerations, and the peritoneal surface showed firm

1. Oelze, F. W.: Radio Dermatitis, Dermat. Wchnschr. **79**: 997 (Aug. 30) 1924; abstr. J. A. M. A. **83**: 1113 (Oct. 4) 1924.

scar tissue formation over the areas where the pins had perforated. The mass of pins and food débris weighed 295 Gm., one pin weighing 1 Gm. The postoperative condition was satisfactory, saline solution being given by hypodermoclysis and fluids by rectum. February 11, mouth feeding was begun, and at this time parotitis had developed on the left side. I believe this to have been due to the usual

Fig. 1.—Mass of safety pins.

causes—dirty mouth, atropine given with morphine, limited fluids, and possible traumatism from the anesthetist. This parotitis necessitated incision and drainage and materially lengthened the convalescence.

The patient was examined mentally by Dr. C. C. Beling and Dr. Mieczyslaw Openchowski, March 22. She told them that she swallowed the pins about thirteen years ago, while working as a domestic, because she was hungry. She kept

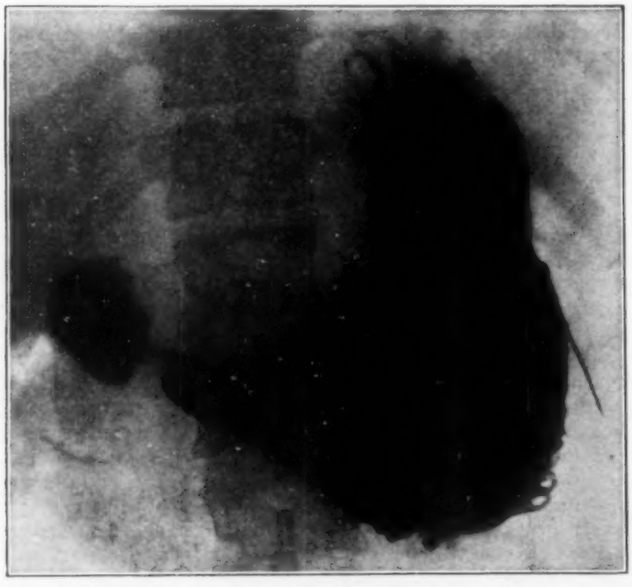


Fig. 2.—Appearance of stomach, containing safety pins.

up the practice for four or five months. She was married ten years ago and has given birth to four children since that time. During the past six months she had dyspeptic symptoms with vomiting. No psychotic symptoms were evident; she had the average mentality of a Polish peasant woman. Both the patient and her husband are of the senile dwarf type, as classified by Dr. Beling.

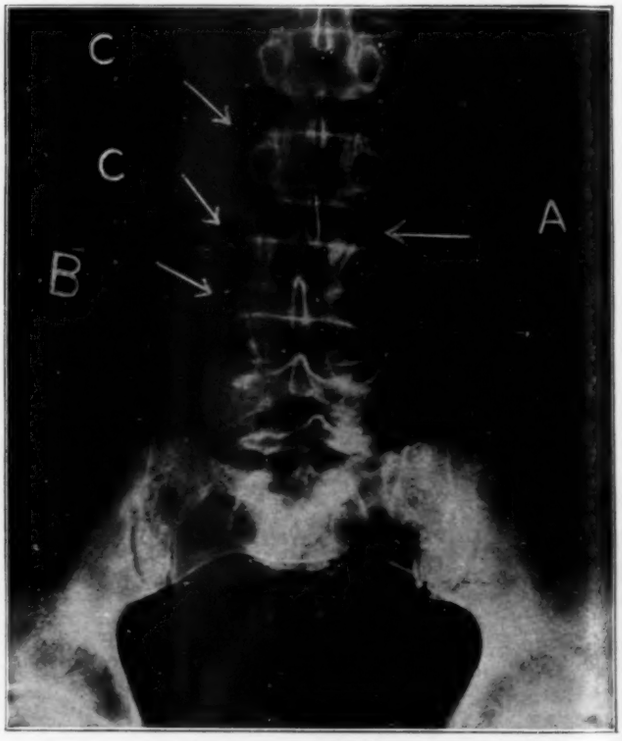
As a rule, anything that can get into the stomach will pass through the rest of the alimentary tract, and I am at a loss to explain why so many pins were found in this case, unless they were all swallowed about the same time and became interlocked. I believe this is a record for safety pins, although Tuft cites the removal from a woman of two papers full of plain pins.

OSTEARTHRITIS OF THE INTERVERTEBRAL JOINTS: REPORT OF CASE

WALTER G. STERN, M.D., CLEVELAND

The occurrence of ostearthritis of the spine is so frequent as a complication of trauma, that the persistence of backache beyond the ordinary period of the expectancy is enough to awaken suspicion that the pains and disability are prolonged either by anatomic variations of the lower spine, or by arthritis.

In many cases, the existence of such complicating arthritis is overlooked because the ordinary gross lesions of exostoses on



Ostearthritis of intervertebral joints, marked by arrows at *A* and *B*.

the corners of the bodies are looked for, while the finer changes in the intervertebral joints are overlooked.

In the case of C. A. D., a man, aged 54, who in November, 1923, was buried in a cave-in and sustained fractures of many ribs on the right side of the chest with bruises to the back, etc., and who returned to work after thirty-three days of rest but had to quit work after a few months on account of pain and stiffness in his back, the physical examination showed that the fractures and the bone and joint lesions had all been recovered from, but that he still had pain and stiffness in the spine. There was limitation of motion, muscle spasm, and fixation of the spine in all directions.

In the belief that we were dealing with something more than fractured ribs, the man was referred to a competent radiographer, who found that the fractures had all healed and that the man was then suffering from ostearthritis of the marginal edges of the vertebral bodies as at *C*, in the illustration, and that there was a typical ostearthritic pointing and hooking of the outer half of the intervertebral joint, as at *B*, and a very typical sclerosing of an intervertebral joint, as at *A*. There was also an ostearthritis of both sacro-iliac joints.

As the man had been able to work without any symptoms on the part of his back and never had to lay off for the last three

years, concerning which the wage record was reviewed, and as he had a bona fide injury for which he was under medical care for thirty-three days, after which he had symptoms which were consistent with the physical observations, I expressed the opinion that the claimant had made a physical recovery from his fractures, and that he was at present suffering from an ostearthritis of the intervertebral joints and bodies of the vertebrae, which arthritis was lit up and made painful and symptomatic by the injury received.

821 Schofield Building.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

IODOXYBENZOATES

Ortho-iodoxybenzoic acid (which contains two oxygen atoms bound to an iodine atom), iodosobenzoic acid (which contains one oxygen atom bound to an iodine atom) and iodobenzoic acid were first prepared by Victor Meyer and co-workers in 1892. Iodoxybenzoic acid resembles salicylic acid, chemically differing in that the hydroxyl group of the latter has been replaced by an iodoxy $\left(I\overset{=O}{=O}\right)$ group. Chemically, ortho-iodoxybenzoic acid is a strong oxidizing agent; in presence of certain reducing agents it forms iodobenzoic acid, while on addition of alkali to the reducing agent, sodium salicylate may also be formed. In the blood stream its salts are also quickly reduced. Loevenhart and co-workers, who did considerable pharmacologic work (1911-1913), showed that on injection of the salts of iodoxybenzoic acid and iodosobenzoic acid, the hemoglobin was immediately oxidized to oxyhemoglobin. Arkin, who reported its germicidal action against staphylococci, also found later that it stimulated the phagocytosis of streptococci and staphylococci by human leukocytes, and that it stimulated production of hemolysin and agglutinin in rabbits when injected intravenously after immunization. In the meantime Hektoen, following certain immunologic studies, had reported that intravenous injections of sodium iodoxybenzoate produced more antibodies than were present in the control animals. The known actions of the salts of iodoxybenzoic acid, as developed by the foregoing workers, led up to its clinical application by Young and Youmans in the treatment of arthritis. The investigators, in their introduction of the substance, used the sodium salt or ammonium salt prepared extemporaneously; later, they recommended the use of ammonium iodoxybenzoate.

Actions and Uses.—The salts of iodoxybenzoic acid are indicated chiefly in arthritis. Although the salts of iodoxybenzoic acid have benefited patients severely crippled, its use should be largely confined to cases in which permanent anatomic changes have not developed to such an extent as to preclude a reasonable expectation of improvement of function. Should such cases be treated, it should be done with the expectation of employing proper orthopedic procedures subsequently. Patients presenting signs of an active infection are reported to respond best. The salts of iodoxybenzoic acid are reported to be preferably administered intravenously; however, for cases in which the drug cannot be given intravenously, oral administration and administration by high enema have been employed and found effective. Following intravenous injection, fever and chills have been noted, which Young and Youmans regarded as favorable rather than otherwise. These reactions resemble nonspecific protein reactions, though these investigators do not concur in this opinion.

Dosage.—Intravenously, 0.75 to 1 Gm. of the salts of iodoxybenzoic acid is dissolved in 100 cc. of sterile physiologic solution of sodium chloride. It should be administered by the gravity method, over a period of not less than seven or more than twelve minutes, followed by a small amount of the sterile sodium chloride solution, to minimize contact of the drug with the walls of the vein. A course of treatment is from five to ten injections, and the doses may be given twice a week. Orally, the dosage recommended is twice that of the intravenous method; for rectal administration a solution of 2 grams of the ammonium salt has been used.

Caution: Salts of iodoxybenzoic acid are oxidizing substances, and will explode if overheated or exposed to a flame. To avoid slow decomposition, they should also be kept out of direct sunlight, and in a dry place.

AMIODOXYL BENZOATE.—Ammonium *o*-iodoxybenzoate.—$C_6H_4(IO_2)COONH_4$.—The ammonium salt of 2-iodoxybenzoic acid. The latter differs from ortho-hydroxybenzoic acid (salicylic acid) in that the hydroxy group is replaced by the iodoxyl $\left(I\overset{=O}{=O}\right)$ group. It contains 42.7 per cent of iodine.

Actions and Uses.—See preceding general article, Iodoxybenzoates.

Dosage.—See preceding general article, Iodoxybenzoates.

Amiodoxyl benzoate occurs as a white crystalline, odorless powder, with a slightly bitter taste; readily soluble in water, slightly soluble in alcohol, insoluble in benzene, ether, and most of the other commonly used organic solvents. An aqueous solution (1 in 20) when freshly prepared is colorless, and neutral to litmus.

Dissolve 0.1 Gm. in 5 cc. of water; add an excess of sulphurous acid; collect the resultant iodobenzoic acid on a filter, wash and dry at 105 C.; it melts at 160-162 C. Dissolve 1 Gm. in 20 cc. of cold water and divide in two portions; to one portion add 1 cc. of a neutral potassium iodide solution: 0.1 cc. of tenth-normal sodium thiosulphate solution should completely remove any iodine liberated in five minutes (*uncombined iodoxybenzoic acid*); to the other portion add 2 cc. of acetic acid: there should be no precipitate within five minutes (*iodosobenzoates*). Dissolve 1 Gm. in 50 cc. of water: separate portions of 10 cc. each yield a faint opalescence with 1 cc. of diluted nitric acid and 1 cc. silver nitrate solution (*halides*); a faint turbidity with 1 cc. of diluted hydrochloric acid and 1 cc. of barium chloride solution (*sulphates*); no marked coloration on the addition of 1 cc. ferric chloride solution (*salicylates*). An aqueous solution of the salt meets the requirements of the test for *heavy metals*, U. S. P. X, page 439.

Ignite cautiously about 1 Gm., accurately weighed, *previously* reduced by sulphurous acid in the presence of sulphuric acid: the residue should not exceed 0.1 per cent. Dry about 0.5 Gm., accurately weighed, for forty-eight hours over sulphuric acid in a partial vacuum; the loss in weight should not exceed 1 per cent. Transfer about 0.25 Gm. previously dried to constant weight over sulphuric acid, accurately weighed, to a 500 cc. Erlenmeyer flask, dissolve in 50 cc. of cold water, add 2 Gm. of potassium iodide, followed by 10 cc. of acetic acid, covering with about 150 cc. of cold water, stoppering the flask, and allowing to stand in a cool, dark place for thirty minutes; titrate the liberated iodine with tenth-normal sodium thiosulphate solution, using starch paste as an indicator: the amount of tenth-normal sodium thiosulphate solution consumed corresponds to not less than 10.3 per cent, nor more than 10.8 per cent active oxygen. Transfer about 0.25 Gm., previously dried to constant weight over sulphuric acid, accurately weighed, to a bomb tube; determine the iodine content by the Carius method: the amount of iodine found should not be less than 42 per cent, nor more than 43 per cent.

Amiodoxyl Benzoate-Abbott.—A brand of amiodoxyl benzoate-N. N. R.

Manufactured by the Abbott Laboratories, North Chicago, Ill. U. S. patent applied for. No U. S. trademark.

EPHEDRINE HYDROCHLORIDE-SWAN-MYERS (See THE JOURNAL, April 16, 1927, p. 1235).

The following dosage form has been accepted:

Capsules Ephedrine Hydrochloride-Swan-Myers, 0.05 Gm.

EPHEDRINE SULPHATE (See THE JOURNAL, March 19, 1927, p. 925).

Ephedrine Sulphate-Abbott.—A brand of ephedrine sulphate-N. N. R.

Manufactured by the Abbott Laboratories, North Chicago, Ill. No U. S. patent or trademark.

Cardiovascular Disease.—Many a death has been attributed wrongly to "acute uremia" merely because the patient was known to have shown hypertension and albumin and casts in the urine. Do not forget that cerebral hemorrhage can occur in the "silent areas" of the brain without paralyses. And do not forget that the diagnosis of chronic nephritis rests not alone on hypertension, albuminuria and cylindruria but requires in addition a definite permanent decrease in renal function. Remember also that in an older patient with hypertension, edema, oliguria, albuminuria and cylindruria (that is the so-called "cardiorenal" case) the chief difficulty is with the heart and that the kidneys are probably capable of doing a fairly good job if they are given a chance. In such patients treatment should be concentrated on the heart. Forget the kidneys temporarily no matter how much albuminuria you find.—O'Hare, J. P.: *Boston M. & S. J.* **197**:128 (July 28) 1927.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

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SATURDAY, SEPTEMBER 24, 1927

INFANTILE PARALYSIS

This is the season of the year when infantile paralysis begins to appear more frequently in the lists of infectious diseases. Several communities report extensive outbreaks. The fears aroused among the public are well warranted in view of the serious harm wrought by the disease in many cases. Not a little of the apprehension is due to the fact that medicine is not yet certain as to the causative organism responsible for infantile paralysis, nor has it any certain method of prevention or cure. Surgeon W. H. Frost of the United States Public Health Service has recently summarized our knowledge of the disease. In 1840 von Heine clearly described it, and told how it differs from other paralytic conditions by the sudden onset of the paralysis and its flaccid atrophic character. In 1905 and 1906, when an especially severe epidemic prevailed in Sweden, Wickham pointed out that many patients recovered without actual paralysis and this observation has been repeatedly confirmed. Infantile paralysis is now considered a general systemic infection due to a virus that attacks especially the central nervous system. The primary lesion of the nervous system is an infiltration of the pia-arachnoid, extending round the blood vessels of the cord, medulla and brain. The motor neurons are injured, the spinal ganglions are involved, and the amount of cerebrospinal fluid is increased with a moderate increase in cells, especially of lymphocytes. The diagnosis may usually be established by lumbar puncture, but this procedure, Dr. Frost considers, should be attempted only by one skilled in its technic and then only after consideration as to whether the benefit will justify the procedure. The onset of infantile paralysis is characterized almost invariably by a rise of temperature, and the next most common symptom is gastro-intestinal disturbances. There is general malaise, headache, restlessness and irritability followed by drowsiness with a disinclination to move the body or to be moved. There is a stiffness of the neck and spine, indicated by the position the patient takes in bed and by complaint of pain when the spine is flexed. The tendon reflexes are usually abnormal and there may be marked tremor or ataxia with muscular weakness. The paralysis that occurs usually in two or three days from the onset of illness is a flaccid motor paralysis not accompanied by loss of sensation. The legs are more frequently affected than the arms; occasionally the muscles of the palate are affected, or the visional muscles or the external rectus muscles of the eye. In fatal cases, death is due to paralysis of the muscles of respiration usually preceded by progressive paralysis of the extremities.

The cases of infantile paralysis may be classified as (1) those with characteristic paralysis; (2) those without paralysis but exhibiting symptoms indicative of meningeal irritation and usually of minor disturbance of motor centers, the so-called abortive cases, and (3) those which have symptoms similar to the initial symptoms of known cases of infantile paralysis but without definite indications of involvement of the central nervous system. Dr. Frost believes that such cases are common. He considers that the specific infection is, perhaps, as prevalent as measles, but that it rarely gives rise to the disease, the more usual result being the establishment of immunity without the manifestation of recognizable symptoms.

In the same issue of *Ohio Health News* in which Frost's discussion occurs is a statement by the advisory board of the division of charities of the state department of public welfare.[1] Concerning the treatment in the acute stage, efforts must be directed toward limiting the extent of injury by placing the patient at rest as completely as possible. Massage of the paralyzed muscles is harmful. Rest is the most important thing of all in the acute stage of the disease. When the convalescent stage begins, usually in about six weeks, gentle massage and passive movement may be used, but they are capable of doing harm as well as good. A trained orthopedic surgeon at this stage should be consulted to lay out a plan of treatment. The board warns particularly against the manipulations practiced by chiropractors and other cults. There is every reason to believe, they say, that rough handling of the spine will render impossible the recovery of some affected tissue which otherwise would take place. Not only are the patients injured by the manipulations of cults, but those things are omitted which may be expected to prevent the occurrence of deformity.

So far as is known at present the most effective method of preventing infantile paralysis would be complete isolation from all contact with patients in all stages of the disease, convalescents and carriers. At least until cold weather sets in children should not travel about any more than is absolutely necessary. There is no known specific prophylactic treatment that can be applied practically.

1. The board includes Drs. Albert M. Freiberg, Cincinnati; Theodore Willis, Cleveland; B. G. Chollett, Toledo; W. A. Hoyt, Akron, and A. M. Steinfeld, Columbus.

PSYCHIC FACTORS IN GENERAL DISEASE

Appreciation of the influence of "mind over matter" is probably as old as humanity. Indeed, the priest physicians of ancient days relied on nothing else in the care of disease. The idea has, however, been abused by millions who, lacking the mental capacity to understand or evaluate facts, have toyed with the occult. The activities of these charlatans have tended to discredit attention given to the psychic element in visceral and somatic disorders. Another factor that has diverted attention from the psychic element in disease has been the great body of exact knowledge of tissue pathology, the gathering of which was initiated by Virchow. Accordingly, an occasional physician has excluded the word "neurosis" from his diagnostic nomenclature, and in a given case, if an underlying pathologic condition could not be found, has remained inactive as a therapeutist. His scientific spirit and his honesty have been laudable, but quacks have thrived by mistreating patients whom he has failed to treat.

At the annual session of the American Medical Association in Washington, the relation of the nervous system to the human organism was considered in the light of recently acquired knowledge.[1] The nervous system is divided functionally into several levels. Of these, the vegetative apparatus is the oldest in development; the cerebral cortex, the most recent, and between the two in point of evolution are the various reflex centers. The whole is united by association paths. Accordingly "it is not difficult," says Hunt, "to understand why mental states associated with anxiety, fear, depression, despair and prolonged conflict should cause disorders in other portions of the nervous system controlling visceral and somatic functions." Heart disorders, Foster points out, are accompanied by psychic abnormalities of two main types. In one type, genuine disease of the heart or blood vessels appears first and genuine mental disease follows. In the other type, primary mental disease is followed by misinterpreted sensations referable to the heart. The mental disease produced by cardiovascular disorders may be pronounced psychosis or merely a change in personality evidenced by diffidence and lack of initiative. The patient of the other class, in whom the mental condition is primary, often is trying to escape from a situation or from a conviction that is intolerable. His subconscious mind perceives that sickness would relieve him of responsibility, and current interest in heart disease supplies the needed suggestion. He then seeks medical advice for a visceral disease of which he is not a victim, but from which he sincerely believes himself to be in danger. A large proportion of the patients seen in the course of an internist's practice are of this class. McLester believes that "one third of the patients who come to the consultant because of digestive complaints are of the psychoneurotic type." He is convinced, furthermore, that most of them are not the victims of fortuitous circumstances but are born neurasthenics. In this respect it is encouraging to recall, with Hunt, that the constitutional factor does not necessarily exclude the possibility of adjustment and that well chosen environmental factors may offset the handicap of faulty inheritance.

In addition to the psychoneuroses that are associated with cardiovascular and gastro-intestinal disorders, well recognized psychic upsets may accompany exophthalmic goiter, diabetes mellitus and diseases of the nose and throat. The underlying cause of psychic events in these three conditions may be toxic neuroses, but as yet they cannot be placed definitely in that class. Neilson suggests that the chronic character of diseases of the nose and throat may bring on "all sorts of emotional and psychic upsets, ranging from simple phobias to stark terror." Difficulties in diagnosis and treatment of these conditions are further disadvantages from a psychogenic standpoint.

This review of the possibilities of psychic disorders in general disease demonstrates the truth of Woodyatt's assertion that "the power of emotions to produce physical alterations of the body does not seem unreal." Recognition and treatment of visceral and somatic symptoms which spring from mental causes, therefore, fall well within the field of the general practitioner and of the internist.

1. Woodyatt, R. T.: Psychic and Emotional Factors in General Diagnosis and Treatment, this issue, page 1013. Hunt, J. R.: Nature and Treatment of Psychic and Emotional Factors in Disease, this issue, page 1014. Foster, N. B.: Psychic Factors in the Cause of Cardiac Disease, this issue, page 1017. McLester, J. S.: Psychic and Emotional Factors in Their Relation to Disorders of the Digestive Tract, this issue, page 1019. Neilson, C. H.: Emotional and Psychic Factors in Disease: Influence on Exophthalmic Goiter, Diabetes Mellitus and Diseases of the Nose and Throat, this issue, page 1020.

THE PLACE OF THE PHYSICIAN IN THE SOCIAL SCHEME

The prolongation of human life has been reduced to a relatively simple formula. Preventive medicine is the watchword of the hour and innumerable schemes are being developed for putting into effect the knowledge of disease and its control that is now available. In the midst of this striving for added years Prof. Stewart Paton[1] reminds us that the human being is something more than an automatic mechanism and that it might be well to stop and consider the importance of the recognition and prevention of madness. His plea is directed to the importance of recognizing the fact that prohibitive efforts are not constructive. It is just as important to improve the quality of the race as to increase its numbers or its duration on this planet. "We are obsessed," says Dr. Paton, "with an insane desire to prohibit, to forbid the ownership of private property, the teaching of evolution, the right to be sane and temperate, or to be considerate of the opinions and actions of other people." This obsession is distorting our mental life as individuals and as a nation.

1. Paton, Stewart: Prohibitions, Yale Review **17**: 22 (Oct.) 1927.

The suggestion that our hygiene, in the past, has been more a moral than a scientific hygiene is not a new one. A cursory survey of the books on hygiene used in the schools from fifteen to twenty years ago reveals them as a constant series of "don'ts" in relation to the taking of tea, of coffee, of alcohol, of tobacco, of almost anything that might afford a modicum of stimulation or of pleasure. The warnings were given, moreover, with little reference to the scientific evidence available or to the pharmacology of the substances concerned or to their actual effects in producing pathologic changes in the human body.

Dr. Paton believes that the only way out of our present trend toward madness is a systematic study of the human personality and of its disorders, involving the special biologic difficulties in adjusting life that are formally designated as nervous and mental disorders. "The time has come," he says, "for physicians to lay before the public a constructive program for living that will appeal to the imagination and the higher emotions of struggling humanity more than do statistical reminders of success in preventing disease and prolonging life. . . . Physicians should let it be known that they wish to assist in finding out what the conditions are that are necessary to produce great men and great societies, and then see what can be accomplished to make real progress in the direction of race improvement."

Coincidentally with this appeal by the distinguished head of the department of mental hygiene and psychiatry of Yale University comes a call from Prof. Ellsworth Huntington,[2] author of many scientific volumes in various fields, for a consideration of mankind's biologic future. But his concern is more fundamental than that of Dr. Paton; he would control the type of stock we are trying to educate. Professor Huntington views with alarm the tendency to disappear that occurs in the higher and in the upper middle classes. Nature tends to produce new types, some of which are highly progressive, and at the same time to destroy ruthlessly every trait that does not promote the survival of the species. As Dr. Huntington indicates, science has reduced the death rate and endowed the upper classes with abundant knowledge and means for birth control. It has conferred on this group a type of freedom never before available. The very lowest of all human types are so imbecile, so diseased or so unhealthy that few of their children survive to maturity. However, the lower middle classes, which include the families of those who are stupid, inefficient and thoughtless, are constantly replenished with children, regardless of the physical qualities of the parents or of their economic condition. In this group the death rate has fallen more rapidly in recent years and the birth rate scarcely changed at all. This great class provides manual laborers and toilers. Their freedom from disease by the progress of modern medicine, from war by the changes in habits of thought of the leaders of mankind, from famine by present methods for the control of food distribution, and from all the other ills that formerly afflicted their social group, makes it possible for them to increase enormously in numbers. In the control of this group politically, democracy is a farce because their inability to think rationally permits them, in the words of Professor Huntington, to be "led by the nose." "They think they are free citizens of a great republic, whereas they are merely the tools whereby the wicked and unscrupulous of the upper classes work their will upon the rest of the people."

The great deficiency in the growth of our population is the lack of reproduction in the upper and in the upper middle classes, particularly the latter. The upper tenth of our population includes four fifths of the college graduates. They fail to have children. The lowness of their incomes and their desire for education, art, music and travel produce limitations of their families that tend toward disappearance. The socially minded persons in our population have been ready with panaceas of all types for the control of posterity. They desire to cut off the surplus in the lower middle class by a broadcast teaching of birth control, regardless of the fact that it has not yet been shown scientifically that the less competent half of our population ever practice birth control successfully when methods are available. Apparently the hope of the future is not in a negative action with relation to the lower half but in a positive action that will cause the upper half of our population to recognize its duty toward the future.

In a recent discourse before the Academy of Medicine of New York, President Nicholas Murray Butler[3] issued a call to the physician to meet his responsibility to the public in the changing order of human affairs. The problems that have been mentioned are essentially medical problems. The public has gotten over the point of view that the physician is some one residing in a distant planet to be called on only in the moment of emergency, of pain, or of suffering and disease, and then asked, in the light of such information as he can speedily gain, to bring relief and satisfaction and to prolong life. The physician has been drawn into the whole social, economic and political organization of mankind and has become one of those cooperating and interdependent agencies which are responsible for the progress of man. "The physician has always stood," said President Butler, "in a remarkable position toward the rest of his fellow men." Any letting down of his standards, any personal dereliction or shortcoming, any act in contravention of his standards and ideals is more disastrous and unfortunate than similar conduct on the part of an ordinary man.

2. Huntington, Ellsworth: Our Biological Future, Yale Review **17**: 136 (Oct.) 1927.

3. Butler, N. M.: The Physician: The Larger View, M. J. & Record **125**: 365 (March 16) 1927.

The new duties and problems indicated by Drs. Paton and Huntington and President Butler are a call to the medical profession to meet its obligations. How many physicians are giving thought to the changing position of the medical profession in relation to human life?

Current Comment

THE BLOOD CALCIUM IN JAUNDICE

Clinicians who deal with jaundiced patients are familiar with the hemorrhagic tendencies of the latter whenever the blood vessels are incised or injured. This manifestation of prolonged bleeding presents a problem to the surgeon who is often concerned with operative procedures in cases in which jaundice prevails. A possible involvement of the blood calcium under these circumstances has long been suspected for at least two reasons. First, the availability of calcium in the blood determines in part the readiness with which this fluid can undergo coagulation extravascularly. Second, the bile pigments that circulate freely in jaundice readily form compounds with calcium, so that conceivably they may alter the distribution and "mobility" of this essential element. An investigation conducted by Cantarow, Dodek and Gordon[1] at the Jefferson Hospital in Philadelphia has, indeed, indicated a wide variation in the calcium content of whole blood in jaundice as compared with that of healthy persons. Although the amount seems to be independent of the type, intensity and duration of the jaundice and does not bear any obvious relation to the coagulation time, the wide variation is regarded as of considerable significance by the Philadelphia clinicians. They assume that it must be dependent largely on corresponding variations in the general calcium metabolism of the tissues, in the functionally available and diffusible fractions and in the amount fixed in the tissues by the pigments and excreted with them in the urine. This conclusion involves a large measure of undemonstrated factors. However, it has been found that after administration of parathyroid extract, which is now believed to include a hormone "regulator" of calcium metabolism and to act as a "calcium mobilizer," the distribution of calcium is practically identical, for a time at least, in jaundiced and normal persons. A favorable effect is exerted on the tendency of jaundiced tissues to bleed—presumably because of an increase in the amount of functioning calcium. This is in harmony with the attempts that have been made in the past to employ calcium therapy in jaundiced persons. The oral administration of salts of the element has given variable results. It is reported that twice the amount of calcium salt, injected intravenously, may be required to raise the blood serum calcium to a given level in a patient with jaundice as in a normal person. The presumable interrelation of the calcium factor, the delayed coagulability and jaundice has thus become increasingly more likely.

1. Cantarow, Abraham; Dodek, S. M., and Gordon, Burgess: Calcium Studies in Jaundice, with Special Reference to the Effect of Parathyroid Extract on the Distribution of Calcium, Arch. Int. Med. **40**: 129 (Aug.) 1927.

CONTRACTILITY OF THE SPLEEN

Knowledge of the contractility of the spleen is not new. Anatomists have studied its smooth muscle, which varies with the species, from comparative insignificance in man to prominence in the cat; and physiologists have described its rhythmic contractions due apparently to an intrinsic mechanism whereby its body of blood more or less isolated from the general circulation is given motion, and in experiments with splenectomized animals have demonstrated for the spleen as a blood reservoir the happy function of delaying the fatal effects of asphyxiation. In fact, Barcroft[1] calls especial attention to a statement made by Henry Gray, in 1854, that the spleen is a regulator of the mass of circulating blood, before he describes his own ingenious methods for making definite measurements of the spleen. Observations were made directly through celluloid windows set in the abdominal wall, or on spleens brought outside the body and kept in a bed of petrolatum, and other records were afforded by roentgenograms of spleens which previously had been outlined by the attachment of strips of metal at crucial points of the surface. Consecutive measurements thus obtained in a variety of conditions indicated that marked contractions of the spleen occurred during carbon monoxide asphyxiation, embarrassments of respirations, physical exercise and hemorrhage, and at death. The advantages of definite measurements are obvious, and this work, which is recognized by other physiologists as some of the best recent work on the spleen, will undoubtedly stimulate further use of these methods.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALASKA

Government Medical Care for Alaskans.—The Bureau of Education of the Department of the Interior has issued a report on the medical service provided for the Alaskan natives. During the last year, the government provided eight physicians, twenty-two nurses and one "first-aid man"; for the first time a physician was stationed at Unalaska, and during the winter he was the only physician in the entire Aleutian region. A traveling dentist has been provided to work among the villages of southern Alaska and in the Yukon Valley. Hospitals are maintained at Juneau, Nulato, Akiak, Kanakanak and Noorvik, while many native children were brought to Seattle for special treatment. The following summary indicates the extent of medical service rendered by the government to these people:

	By Nurses	By Physicians	Total
Number of visits to natives' homes	12,033	401	12,434
Number of native patients treated	8,311	2,836	11,147
Number of treatments given	22,026	12,820	34,846
Number of births reported	117	60	177
Number of deaths reported	72	41	113
Total days of hospital care	.....	6,989	6,989
Out and clinic calls	.....	1,651	1,651

CALIFORNIA

Lectures on Physical Therapy.—A special course of lectures will be given by Dr. Frank B. Granger, Boston, at Stanford University School of Medicine, San Francisco, September 26-30, on "Value and Use of Physical Therapy Meth-

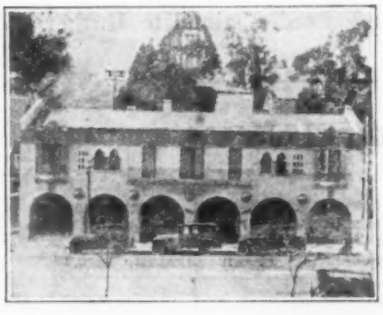
1. Barcroft, Joseph: Etude des rapports entre la rate et la masse sanguine, Le Sang **1**: 97, 1927.

ods." Physicians are invited to register for the course, for which a fee of $10 is charged. The object is to give physicians an opportunity to obtain a practical knowledge of physical therapy procedures.

Promoter of "Cascarets" and "Notobac" Faces Prison.—It is reported that Henry L. Kramer was found guilty, September 9, by a jury in federal court at Los Angeles on nine counts of misuse of the mails and one count of conspiracy to misuse the mails. Kramer is said to have accumulated wealth through the promotion of the trade names "Cascarets" and "Notobac," but he is now said to be almost penniless. E. G. Lewis, a promoter and Kramer's associate, was also found guilty. Their arrest came about through the promotion of the *California Illustrated Review*. Subscribers who gave $10 for a life subscription are said to have been promised an almond tree and later an interest in oil wells. The government contended that the advertising of the oil wells was greatly misrepresented.

Personal.—Dr. George R. Hubbell has been appointed city health officer of Petaluma.——Dr. Thomas R. Ponton has resigned as superintendent of the Hollywood Hospital, Hollywood. —— Dr. Emil W. Meyer was recently appointed superintendent of the San Bernardino County Hospital, San Bernardino, succeeding Dr. Emmett L. Tisinger. Dr. Meyer has for eleven years been assistant superintendent of the Southern California State Hospital, Patton. —— Dr. R. C. Kirkwood has been appointed medical director of the San Joaquin County Tuberculosis Sanatorium, Stockton. —— Dr. George W. Tape, Paso Robles, and formerly of Hot Lake, Ore., won the prize for the best story told at the annual banquet of the Oregon State Medical Society, Salem, September 3; Dr. Tape acted as toastmaster.

Another Type of Medical Arts Building.—A small group of Los Angeles physicians have erected an office building at 4759 Hollywood Boulevard, which is of Spanish Mediterrean architecture, in an endeavor to combine beauty, comfort and pleasant surroundings with office practice. One reception room serves the entire building, and the offices are all on the second floor. There is an elevator and an easy stairway, and a surgical department with beds for minor surgical and emergency cases, but the building is in no sense a hospital. There is a complete roentgen-ray department on the ground floor, a pharmacy and a surgical supply company. The arched tunnel driveway leads to a large parking space in the rear which is maintained for the convenience of patients. The furniture is of Spanish design and the arrangements throughout lend charm. The president of the Medical Arts Corporation which owns the building is Dr. Harry G. Marxmiller; the secretary, Dr. Stanley Boller; the treasurer, Dr. Llewellyn R. Lewis, and the vice president, Dr. Carl E. Conn, and associated with them are several other physicians who have offices in the building.



COLORADO

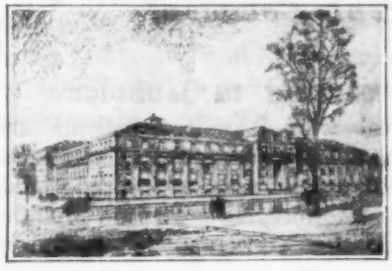
State Medical Election. — At the annual meeting of the Colorado State Medical Society, September 6-8, Dr. William A. Sedwick, Denver, was installed as president; Dr. Samuel B. Childs, Denver, was made president elect; Drs. James M. Lamme, Walsenburg, Willis B. Hardesty, Berthoud, Royal H. Finney, Pueblo, and Robert B. Porter, Glenwood Springs, vice presidents; Dr. Frank B. Stephenson, Denver, secretary, and Dr. Leo W. Bortree, Colorado Springs, treasurer.

CONNECTICUT

Personal. — John Johnston, Sc.D., Sterling professor of chemistry at Yale University, New Haven, has resigned to join the U. S. Steel Corporation as director of its department of research in technology.

Much Less Typhoid.—Unless outbreaks occur during the remainder of the year, a low record will have been established in Connecticut for typhoid this year, only forty-eight cases having been reported for the first eight months as compared with 102 for the same period in 1926. Last year's total of 165 cases was a low record. There have been only nine cases of paratyphoid reported thus far in 1927. The state department of health considers that among the factors responsible for the reduction of typhoid are better protection of the water supplies, the pasteurization of most milk supplies, and a better understanding by the public of sanitation.

Yale Extends Memorial Laboratory.—Dean Milton C. Winternitz, Yale University School of Medicine, New Haven, has announced plans for the extension of the Anthony N. Brady Memorial Laboratory, to consist of a building 180 by 240 feet and four stories high, which will extend along Congress Avenue from Cedar Street to Howard Avenue, and which will serve the purpose of the New Haven Hospital as well as the school of medicine. It will house the departments of pathology, bacteriology and surgery and will contain classrooms, offices and laboratories for the school of nursing.



IDAHO

Society News. — Dr. Henry R. Hatch has been elected president for the ensuing year of the Idaho Falls Medical Society, and Dr. Alexander C. Barclay, Coeur d'Alene, has been elected president of the Kootenai County Medical Society. —— Dr. Dorothy Rich, Lava Hot Springs, has resigned as director of the bureau of child hygiene, Boise. ——Dr. Franklin M. Leitch has been appointed city health officer of Moscow for the unexpired term of the late Dr. James N. Clarke.

ILLINOIS

Personal. — Dr. George W. Morrow, assistant managing officer, East Moline State Hospital for six years, was transferred to a similar position at the Kankakee State Hospital, September 1; Dr. Morrow was the guest of honor at a reception previous to his departure for Kankakee. Dr. Harry E. Marselus of Lincoln was appointed to the position at East Moline vacated by Dr. Morrow.——Dr. Robert W. Edwards has resigned as health officer of La Grange.

All-Day Clinical Meeting. — The Adams County Medical Society has arranged for an all-day clinical meeting at Quincy, November 14, at the Elks' Club Hall. The speakers will be Dr. Jabez N. Jackson, Kansas City, President of the American Medical Association; Dr. Richard L. Sutton, professor of dermatology, University of Kansas School of Medicine, and Dr. William W. Duke, formerly professor of experimental medicine, University of Kansas School of Medicine.——Dr. George W. Crile, Cleveland, addressed the Vermilion County Medical Society, Danville, September 6, on goiter.

Chicago

Hospital News.—The hospital begun some years ago at the corner of Fifty-Seventh and Wood streets is now being completed by the Southwest General Hospital Association; the capacity will be sixty-eight beds.——A six story hospital is under construction at Eggleston Avenue and Seventy-Eighth Place, Auburn Park, which will have a capacity of 110 beds and cost about $325,000, exclusive of equipment. Dr. Samuel A. Waterman is said to be the president of the corporation, and Dr. Charles K. Barnes, secretary. The present two story building of thirty beds will be used as the nurses' home.—— The construction of the first unit of Holy Cross Hospital has been undertaken by the Lithuanian Roman Catholic Charities of America on a site at Sixty-Eighth Street and South California Avenue. This unit will contain 100 beds, and is so arranged that on completion of the entire hospital it can be used as a nurses' home. The hospital is planned as a memorial to Lithuanian immigrants to America.

Society News.—The sixth annual meeting of the American College of Physical Therapy will be at the Hotel Sherman, Chicago, October 31-November 5, under the presidency of Dr. Disraeli W. Kobak, Chicago. The president-elect, Dr. James C. Elsom, Madison, Wis., will preside at the annual banquet, which will be the main social event of the congress; among other speakers at the banquet will be Dr. William B. Snow, New York, on "Early Pioneers in Physical Therapy," and Dr. James H. Hutton, Chicago,

"Attitude of the County Medical Society Toward the Promotion of Scientific Physical Therapy."——Dr. Gordon B. New, Mayo Clinic, Rochester, Minn., addressed the Chicago Dental Society, September 20, at the Medical and Dental Arts Building, 185 North Wabash Avenue, on "Tumors of the Mouth and Jaw." A dinner was given in honor of Dr. New preceding the meeting to which members of the Chicago Medical Society were invited.——Dr. John S. Coulter will address the Chicago Society of Industrial Medicine and Surgery, October 3, Great Northern Hotel, on "Practical Consideration of Physical Therapy in Industrial Practice."

IOWA

Personal.—Dr. Walter J. Connell has been appointed director of the bureau of health of Dubuque to succeed Dr. Daniel C. Steelsmith, who will resume his private practice.

Dr. Houghton Appointed Dean at Iowa.—The president of the state university at Iowa City announced, September 13, that Dr. Henry Spencer Houghton will be dean of the medical school. Dr. Houghton was born in Ohio in 1880, and graduated from Ohio State University and Johns Hopkins University School of Medicine; he served at the general hospital at Wuhu, China, from 1906 to 1911; at the Medical School of Harvard University at Shanghai from 1911 to 1917, and as director of the Peking (China) Union Medical College. Dr. Houghton will direct not only the College of Medicine at Iowa City but also the university hospitals. He will do clinical work and give lectures but he will not have a private practice.

KENTUCKY

Twenty Full-Time Health Departments Organized.—Since the disastrous floods in Kentucky in the early spring, twenty full-time health departments have been organized by the state board of health with the assistance of the U. S. Public Health Service and the Rockefeller Foundation. The directors of these new health departments have taken the graduate courses in public health at one of the stations maintained for this purpose by the Rockefeller Foundation.

Personal.—Dr. Flora W. Mastin, Frankfort, who resigned as secretary of the Franklin County Medical Society, having been appointed assistant resident physician in the Eastern Kentucky State Hospital for the Insane, Lexington, was given a testimonial dinner by the society and presented with a suitable gift.——Dr. Charles Hunt has been elected full-time health officer for Hickman County, with headquarters at Clinton.——Dr. Benjamin S. Rutherford has been appointed health officer of the city of Bowling Green to succeed Dr. Frederick D. Cartwright, resigned.——Dr. Roy Orsburn, Sebree, has been appointed full-time health officer for Webster County and has gone to Greenville, Ohio, to take a six weeks' course of training in public health work.——Dr. Samuel C. Smith, Ashland, has been elected commander of the Kentucky Department of the American Legion for the coming year.——Dr. James Clyde Vanneter has resigned as city physician of Lexington, it is reported, to accept an appointment with the Ohio State Health Department.——Governor Fields has appointed Dr. Vernon Blythe, Paducah, a member of the state board of health to succeed Dr. Van A. Stilley, Benton, who resigned to become an assistant director in the bureau of county health work. The governor has also appointed Dr. Henry T. Alexander, Fulton, a member of the state board of health to succeed the late Dr. George T. Fuller, Mayfield.——Dr. James S. Fitzhugh, Island, has been appointed health officer of McLean County.

MASSACHUSETTS

Personal.—Dr. Lewis F. Baker has resigned as superintendent of the Union Hospital, Fall River.——Dr. Charles A. Drew, for eighteen years superintendent of the city hospital, Worcester, has resigned, effective November 1.

Lectures by Professor Sherrington.—Sir Charles Scott Sherrington, professor of physiology, Oxford University, England, will lecture at the Medical School of Harvard University, Boston, under the Edward K. Dunham Foundation, October 10, on "Observations on Stretch Reflexes"; October 13, on "Modes of Interaction Between Reflexes," and October 17, on "Some Factors of Coordination in Muscular Acts."

Lectures on "Care of the Patient."—For two years the Medical School of Harvard University has arranged each autumn a series of lectures on the "Care of the Patient," in order to emphasize the care of the human individual as against the more technical care of the disease. The lectures this fall will be given by Drs. David L. Edsall, October 18; John M. T. Finney, October 20; Austen F. Riggs, October 25; Charles Macfie Campbell, October 27; Charles F. Martin, November 1, and Alfred Worcester, November 3.

Health at Springfield and Lowell.—Reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about 30 million for the week ending September 3 indicate that the lowest mortality rate (6) was for Springfield, and that the rate for the group of cities as a whole was 10.5. The mortality rate for Springfield for the corresponding week last year was 8.6, and for the group of cities, 10.9. These reports further indicated that the highest infant mortality rate (154) for the week ending September 3 was for Lowell.

Course in Mental Nursing.—A three months' course of formal instruction in psychiatry and mental nursing in the state hospitals has been arranged by the state department of mental diseases. The course is available for classes in training at approved schools of nursing in tax free hospitals incorporated in Massachusetts. Such a course has been in continuous operation for about a year under this plan of affiliation with several general hospitals in the state at the Boston Psychopathic and Worcester State hospitals. As soon as arrangements can be made, similar courses will be conducted at other state hospitals. Further details may be had by communicating with the department of mental diseases, Room 109, State House, Boston.

MINNESOTA

Physicians Must Register Before October.—At the request of the state board of medical examiners, attention is again called to the basic science act, which requires that every physician in Minnesota who desires to retain his license must register with the basic science board before October 1. Those who fail to register may, at the discretion of the board, after paying a fee of $25, be issued a certificate of registration in the basic sciences at a later date. Further information concerning this registration will be found in THE JOURNAL, July 16 and August 13, under Minnesota news. The secretary of the board of examiners in the basic sciences is Dr. Elexious T. Bell, 110 Anatomy Building, University of Minnesota, Minneapolis.

MISSOURI

Personal.—Dr. John N. Baskett has resigned as physician-in-charge of Levering Hospital, Hannibal, and has been succeeded by Dr. John J. Bourn.——Dr. Ernest Von Quast, Kansas City, celebrated his seventy-fourth birthday, August 21. Dr. Von Quast has been practicing in Kansas City for fifty-four years, and has been a member of the state medical association since 1908 and since 1919 an honor member.

Dr. Dean Appointed Editor.—Dr. Lee W. Dean, Iowa City, Iowa, until recently dean of the State University of Iowa College of Medicine, has accepted the position of editor-in-chief of the *Annals of Otology, Rhinology and Laryngology*, which is published in St. Louis. Dr. Dean is said to be a past president of the American Laryngological Society and of the American Laryngological, Rhinological and Otological Society. Dr. Arthur W. Proetz, assistant professor of clinical otolaryngology, Washington University School of Medicine, St. Louis, is the associate editor.

NEW YORK

Falls in Barrel of River Water—Contracts Typhoid.—The state department of health has been informed of a case of typhoid developing in a 5 year old boy about ten days after he fell head first into a hogshead of Hudson River water. It seems that the cistern which the family used for washing was low and that a hogshead had been filled with river water. The boy is said to have been half drowned, indicating that he swallowed some water. The state department recalls that following the *Eastland* disaster in Chicago several years ago, only one among hundreds who were thrown into the Chicago River developed typhoid; those rescued were immediately given typhoid vaccine. The one case of typhoid developed in a woman who was not given the vaccine.

Report of Burke Relief Foundation.—The last biennial report of the Winifred Masterson Burke Relief Foundation at White Plains shows that private physicians referred 4,340 cases to the foundation since its opening twelve years ago. Bellevue Hospital in the last two years referred 1,775 cases; other hospitals referred a gradually diminishing number of cases, the smallest

number listed being ninety-six from the Roosevelt Hospital. The Burke Foundation is a convalescent center established by Mr. Burke with the object of relieving "worthy men and women who notwithstanding their willingness to support themselves have become wholly or partly unable to do so by reason of sickness or misfortune, or who have been discharged from hospitals before they have regained sufficient strength to resume their employments." There is a pressure of applicants for admission from whom the most needy and fitting are chosen. With its 60 acres of grounds and cluster of buildings, the institution is able to carry on recreational therapy as well as convalescent restorative and preventive therapy. Through reports, addresses, consultations, entertainment and other ways, it has taken an increasingly larger part in public health movements in the very populous community which it serves. Its work is primarily restorative. The routine includes long sleeping hours, infirmary service, balanced diet, much outdoor exercise in nearly all weathers, prescribed therapeutic occupation and regular employment about the institution or vicinity while the patient is frequently still under treatment and on a handicapped basis. The length of stay in the institution naturally varies from days to months, but the average for the last two years was

Burke Relief Foundation at White Plains.

a little more than eighteen days, and the average maintenance cost $1.81 per day. The total number of patients admitted for the two years ending May 1 was 11,481. The report, which has been issued in pamphlet form, in classifying the source of the patients shows that the institution is of service to many social agencies, courts, clubs, homes, hospitals and other organizations. It further shows pictorially the healthful atmosphere the institution provides for physical and mental reconstruction. The medical staff comprises the medical director, Dr. Frederick Brush, a resident physician, and consultants, including internists, surgeons, a neurologist, a pediatrician, a roentgenologist, an ophthalmologist and dental surgeons.

New York City

Personal.—Dr. William W. Peter was appointed associate secretary of the American Public Health Association, effective, August 1. Dr. Peter is a graduate of Rush Medical College, Chicago, and recently received a Dr.P.H. degree from Yale. He was engaged for a number of years in China in public health work.

Society News.—A party of twenty-five members of the surgical section of the Royal Society of Medicine of Great Britain visited clinics at the New York Post-Graduate Medical School and Hospital, September 19 and 21.——The Committee for Health Service among Jews has joined the New York Tuberculosis and Health Association. The committee has been engaged in preventive health work since 1921, and its work has been closely related to that of the New York Tuberculosis and Health Association and will be conducted on a nonsectarian basis. The merger was mutually agreed to; the resources of both will be combined and the waste of duplicate efforts in the same field eliminated. Jacob A. Goldberg, Ph.D., will continue as secretary of the committee.—— Dr. Simon Frucht addressed the Brooklyn Society of Internal Medicine, September 23, on "Critical Study of the T Wave in the Electrocardiogram," illustrated by lantern slides and a motion picture entitled "A Story of the Heart."

Ceremony at New Psychiatric Institute and Hospital.—Governor Smith laid the cornerstone of the New York State Psychiatric Institute and Hospital, September 17, which is being erected as part of the medical center at Broadway and One Hundred and Sixty-Eighth Street. The chairman of the Joint Administrative Board of the Medical Center, Mr. William Barclay Parsons, officially extended to the state of New York all the resources of the medical center to assist in solving the state's problem of mental diseases. Other speakers were Mr. Dean Sage, president of the Presbyterian Hospital; Mr. Homer Folks, secretary, State Charities' Aid Society, and Dr. Frederick W. Parsons, Albany, the new commissioner of mental hygiene. The construction of the building was made possible by the recent hospital bond issue, sponsored by Governor Smith; the site was given to the state by the Joint Administrative Board of the Medical Center. The institution will be twenty stories high, the lower ten to be used for the hospital and the upper ten for the institute. There will be about 200 beds for the observation and study of patients. Students at the College of Physicians and Surgeons will have an opportunity to observe the early symptoms and treatment of mental patients, just as medical students in the past have been able to observe other classes of patients. The thirteenth floor will be operated by personnel of the Neurological Institute, which will do the routine laboratory work for both the state psychiatric and the neurologic institutes. The fifteenth floor will be given over to workers from the Neurological Institute, who will do research for both institutions. There will be laboratories for the study of the anatomy and physiology of the nervous system, and others for the study of the pathology, chemistry and bacteriology of mental disorders, and other phases of mental disease. The primary object of the institution is research and treatment, but only cases of special interest to science will be housed here. One floor will be set aside for children, and will be equipped with a school and a workroom. An outpatient department will occupy the larger part of two floors. The institution will be a central agency also for carrying out a mental hygiene program. There will be lecture rooms where postgraduate courses in psychiatry will be given for practicing physicians, and other courses for school teachers, social workers and welfare officers. Thus far the steel framework of the building has been completed and seven stories enclosed in brick. The state of New York has been seriously disturbed by the problem of insanity; a conservative estimate from state statisticians shows that mental disease is represented in one of every seven families in the state, and that one out of every twenty-five persons is destined to have a residence in a state hospital sometime during his life. Last February, the fourteen state hospitals were filled beyond their capacity; nearly 45,000 mentally sick persons were under treatment.

NORTH CAROLINA

Charlotte's Open Air School Closed.—The open air school conducted for several years by the authorities of Charlotte in connection with the city public school system has been closed. The authorities take the position, it is reported, that health work is not the duty of the public school. The maintaining of eleven students in the school last year is said to have cost the city about $260 per pupil. The city-county superintendent of health considers that the advantages accruing to the children and the advantage of having them separated from the other children outweighs the cost.

School for Teachers of the Deaf.—More than 350 students were in attendance at the thirty-fourth annual opening of the North Carolina State School for the Deaf at Morganton, September 7. This is one of the few schools in the country which maintains an active school for teachers of the deaf. An effort is made to train every pupil with sufficient intelligence to teach the deaf or to enter some other vocation which will make him self-sustaining. Within the last few years, twenty-one teachers have gone from this institution to the state of Rhode Island alone, and its graduates are said to be teaching in many states of the Union.

Party to Make Medical Inspection.—A party headed by Mr. Abraham Flexner of the General Education Board, New York, will make a tour of the western half of North Carolina the last week of September to note the general medical conditions, the hospital facilities and other things of interest to the medical profession. The towns on the tour will include Durham, Winston-Salem, Greensboro, Burlington, Waynesville, Asheville, Gastonia, Charlotte and Shelby. The party will include Dr. William A. Pusey, formerly President of the American Medical Association; Dr. John A. Ferrell of the Rockefeller Foundation; Dr. Winford H. Smith, superintendent, Johns Hopkins Hospital; Dr. Eugene L. Bishop, state health officer of Tennessee; Dr. Watson S. Rankin of the Duke Endowment, and Dr. Wilburt C. Davison, dean of the Duke University School of Medicine. The party will confer, informally, with the officers of the various hospitals and discuss hospital activities.

OHIO

Incidence of Infantile Paralysis.—The outbreak of infantile paralysis in Ohio between July 1 and September 6 had amounted to 354 cases, and forty-two deaths were reported to the state department of health. Prior to July 1, only eighteen cases had been reported throughout the state. During August, 270 cases were reported. Dr. Wade H. Frost of the U. S. Public Health Service, who went to Ohio to cooperate with the state authorities during the outbreak, reported that the epidemic began in and around Martins Ferry in Belmont County, where fifty-one cases had been reported up to the time of his report. The other area most severely affected was Tuscarawas County, where sixty-eight cases had been reported up to that time. Other areas in which a smaller group of cases had occurred were in Stark County in and around Canton; Summit County, principally in Cleveland; Hamilton County, chiefly in Cincinnati; Richland County around Mansfield, and Marion County, around the city of Marion. While Dr. Frost considered it justifiable not to make a definite prediction for the future course of the epidemic in Ohio, there were indications, he said, that the disease is probably already on the decline and will not reach a high state-wide prevalence.

Society News.—Dr. John H. J. Upham, a member of the Board of Trustees of the American Medical Association, addressed a joint meeting of the Coshocton and Tuscarawas county medical societies, July 21, on "Diseases of the Heart."——Dr. John O. Stewart, Cedarville, addressed the Green County Medical Society, August 4, on "The Riddle of Abnormal Minds."——Among the speakers at the annual meeting of the Northwestern Ohio District Medical Society, Defiance, September 13, were Dr. Abraham A. Brill, New York, who gave an oration on "Psychanalysis in the Practice of Medicine"; Dr. Fred H. Albee, New York, "Treatment of Ununited Fractures of the Neck of the Femur"; Dr. P. Brooke Bland, Philadelphia, "Abdominal, Vaginal and Rectal Examinations in Pregnancy and Labor"; Dr. Max Thorek, Chicago, "Treatment of Infections, Particularly Osteomyelitis"; Dr. Emerson A. North, Cincinnati, "Some Practical Applications of Social Psychiatry"; Dr. Calvin Morrison, Chicago, "Syphilis in the Rural Districts," and Drs. Robert T. Morris, New York; Chelsea A. Coleman, Dayton, O.; E. Richardson, Marion; Auguste Rhu, Marion, president of the society, and Dr. Leslie L. Bigelow, Columbus, president of the state medical society. An invitation was extended to the neighboring councilor districts and adjoining counties in Indiana and Michigan to attend the meeting.——Drs. Edgar P. McNamee, Elmer A. Masztics and Felix A. Spittler addressed the Academy of Medicine of Cleveland, September 16, on "Massive Collapse of the Lung," and Drs. Marion A. Blankenhorn and Maurice L. Richardson on "New Clinical Aspects of Alcoholism."——Dr. Elliott C. Cutler, professor of surgery, Western Reserve University School of Medicine, Cleveland, addressed the Summit County Medical Society, Akron, September 6, on "Postoperative Complications." Dr. John A. Toomey, Cleveland, addressed the medical section of the society, September 14, on "Infantile Paralysis."

OKLAHOMA

Oklahoma Tries Again for Registration Area.—Another effort is being made to place Oklahoma in the U. S. registration area for births and deaths. The test made by the federal government in 1926 indicated that the state was losing the records of about 20 per cent of its births and about the same percentage of deaths. The state department of public health says that about 8,000 children are born each year without the protection of a birth certificate and about 4,000 deaths occur annually which are not reported. The cooperation of every citizen is requested in an effort to improve the vital records in Oklahoma, so that at the next test by the federal government the state will be admitted to the registration area. Although every state in the union has laws requiring a record of births and deaths, a few of them do not enforce these measures sufficiently to meet the federal requirement for admission to these areas.

Lectures on Obstetrics for Physicians No Charge.—The extension division of the University of Oklahoma has arranged through the cooperation of the United States and the Oklahoma bureaus of maternity and infancy a series of lectures in obstetrics for physicians, for which there will be no charge. The lectures will be given by Dr. Alice W. Tallant, Philadelphia, for many years a member of the obstetric staff of the Jefferson Medical College. The lectures will be given in the following twelve cities, six on the west and six on the east side of the state: Tulsa, Oklahoma City, Muskogee, McAlester, Enid, Vinita, Elk City, Woodward, Pawhuska, Tonkawa, Lawton and Hugo. There will be two sessions in each center one week apart. The lectures will be followed by demonstrations on a manikin the second week. Dr. Tallant gave a similar course in obstetrics last year to about 500 physicians in Kentucky, and on completing the course in Oklahoma will return to Kentucky, where a second series of lectures will be given. Only licensed physicians will be admitted to the course and although there will be no fee, the dean of the extension division of the university requests all who will attend to register in advance.

PENNSYLVANIA

Silver Anniversary Celebrated.—The Cumberland Valley Medical Association celebrated its silver anniversary at Mont Alto Park, September 1, where the organization was formed twenty-five years ago. The association comprises physicians from Cumberland, Franklin and Washington counties. Among the speakers were Dr. Arthur C. Morgan, Philadelphia, president elect of the Medical Society of the State of Pennsylvania, on "Precision in Diagnosis"; Drs. Theodore H. Weagly, Marion; William T. Phillipy, Carlisle, and Victor D. Miller, Hagerstown, Md.; spoke on reminiscences. Dr. Miller was elected president for the ensuing year, and Dr. William A. Gordon, Hagerstown, Md., secretary.——Dr. Edward A. Strecker, professor of nervous and mental diseases, Jefferson Medical College, addressed the Lancaster City and County Medical Society, September 7, on "The Psychology of the Normal Child."——At the September 16 meeting of the Northampton County Medical Society, Easton, Dr. Burtis M. Hance will read a paper on "Hematuria"; Dr. John H. West on "Thymic Syndromes in Infancy and Childhood," and Robert E. McLaughlin, D.D.S., on "Focal Infections from a Dental Point of View."

Hospital News.—Dr. Samuel S. Hill has resigned as superintendent of the State Hospital for the Chronic Insane at Wernersville.——The state hospital at Coaldale opened a new 100 bed annex, September 12.——The Children's Heart Hospital, Philadelphia, has purchased an additional tract of land. The complete plans for the institution call for more than 400 beds, and the structure will cost about $600,000.

Philadelphia

Personal.—Dr. Helen B. Todd, New London, Conn., has been appointed associate director in the health and physical education department of Temple University Teachers College.——Dr. Frederick H. Leavitt addressed the Berks County Medical Society, September 13, on "The Modern Conception and Treatment of Mental and Nervous Disorders."

TEXAS

Dr. Hartman Appointed Dean.—Dr. Henry Hartman, professor of pathology, University of Texas School of Medicine, Galveston, has been appointed dean of the medical school, succeeding Dr. William Keiller, resigned. Dr. Hartman for many years has been a teacher in the college and since March, 1926, has been the acting dean. He will continue to serve in both positions. The medical college opens October 1.

VIRGINIA

Society News.—The Wise County Medical Society was the guest, July 15, of the Norton Medical and Dental Society. Following a series of papers, a clinic was held at the Norton Hospital. A banquet was served on the lawn; about thirty physicians attended. Among others, Dr. James G. Bentley, Blackwood, read a paper on "Methods of Improving Mining Camp Sanitation from the Standpoint of Industrial Medicine," and Dr. George B. Setzler, Norton, on "Differential Diagnosis of Epiphyseal Separations, Dislocations and Sprains."

Personal.—Dr. William A. Shepherd has been appointed surgeon of the fire department of the city of Richmond to succeed the late Dr. Charles V. Carrington.——Dr. Casper L. Woodbridge, for several years a missionary in China, located in Pulaski, about September 1, to engage in practice.——Dr. Stephen H. Watts, on request, has agreed to remain another year, pending the selection of his successor as professor of surgery and gynecology at the University of Virginia Department of Medicine, Charlottesville.——Dr. Miletus B. Jarman has resigned as medical director of the hospital division of the Medical College of Virginia, Richmond, to locate at Hot Springs where he and his wife, Dr. Jeannette Morris, will be resident physicians to the Springs; Dr. Wil-

liam P. Thompson will succeed Dr. Jarman as medical director of the hospital division at the college.——Dr. Donald St. C. Campbell has resigned as health officer of Newport News, effective, September 30.——The following appointments have been made at the Medical College of Virginia, Richmond: Dr. William B. Porter, professor of medicine; Sidney S. Negus, professor of chemistry; J. C. Forbes, Ph.D., assistant professor of chemistry; Dr. Lewis C. Pusch, associate in pathology, and Jacob G. Jantz, associate in anatomy.

WASHINGTON

Health at Spokane.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of about 29 million, for the week ending September 10, indicate that the highest mortality rate (20.1) was for Spokane, and that the rate for the group of cities as a whole was 11.3. The mortality rate for Spokane for the corresponding week last year was 13.4, and for the group of cities, 10.2.

"Dr." Karsunky Arrested.—It is reported that inspectors of the state department of licenses, cooperating with the Better Business Bureau of Tacoma, arrested "Dr." Alex Karsunky of 911 Maine Avenue West, Puyallup, recently, on a charge of practicing medicine without a license. Karsunky is reported to specialize in the sale of a white powder, which is good for whatever ails you. His diagnoses are based on the date of birth, and are claimed to be infallible.

Report on Hospital Situation in Seattle.—A survey of the hospital situation in Seattle was made recently by Dr. Richard G. Brodrick, professor of hospital and health administration, Stanford University School of Medicine, San Francisco, at the request of a committee of laymen and physicians named by the King County Medical Society. The report was transmitted to the city council, the county commissioners and other officials by the special committee. Dr. Brodrick is said to have recommended (1) a new general city-county hospital to be erected on the southern end of the campus of the University of Washington with an ultimate capacity of 500 beds; (2) an emergency receiving hospital of twenty beds downtown in the Public Safety Building; (3) a hospital for chronic cases with 160 beds at the present county hospital, the old building to be modernized; (4) a tuberculosis hospital at Firland with 185 beds, and (5) a convalescent farm adjacent to Firland to be able to care for fifty patients a day for an average of twenty days. It was further recommended that branch dispensaries or health centers be provided in the more populous districts of Seattle to provide against the sick poor traveling long distances for treatment. The report is said to have stated that the present hospital conditions in the city and county are deplorable, the hospitals being inadequate, improperly located and insufficient, and that "there seems to be almost criminal neglect." Dr. Brodrick urged that the new general hospital be managed by a board of nonsectarian, nonpolitical, highly competent men. The members of the King County Medical Society appointed by the mayor on the special committee to consider the hospital situation of Seattle were: Drs. Philip V. von Phul, George W. Swift, James B. Eagleson, Frank S. Bourns, Donald A. Nicholson, George A. Dowling, Walter S. Griswold, Erestus T. Hanley, Uri C. Bates, Walter Kelton and a Dr. Mathews.

GENERAL

Reorganization of American Society for the Control of Cancer.—Tentative plans have been submitted for a reorganization of the American Society for the Control of Cancer, according to the *Boston Medical and Surgical Journal;* it is proposed to have a council of 100 elected annually instead of the present advisory council; all state and provincial chairmen would be members of the council. The executive committee would be reduced from twenty members to eight, and the number of directors increased from five to nine, as a result of the financial responsibility resulting from the accumulation of the million dollar endowment fund. The society would conduct its activities as in the past, with emphasis on the promotion of clinical facilities for the diagnosis and treatment of cancer, and the establishment of standards for the operation of institutional centers, the education of professional workers and the publication of information regarding the natural history of cancer.

Society News.—At the recent annual meeting of the American Electrotherapeutic Association, Dr. Charles F. Stokes, New York, was elected president; Drs. A. Bern Hirsh, New York, Burton B. Grover, Colorado Springs, Tilman Howard Plank, San Francisco, George J. Ott, Boston, Edwin N. Kime, Indianapolis, vice presidents; Dr. Richard Kovacs, New York, secretary, and Dr. Cadwallader C. Vinson, New York, treasurer.——The sixth annual convention of the National Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions of the United States was held in Los Angeles, September 8-10, with Dr. Edwin G. Goodrich as host. Members of the Los Angeles County Medical Association were invited to participate in the entertainment and to attend the sessions. Dr. Goodrich was elected president for the ensuing year; Dr. George C. Hunt, Chicago, vice president, and Dr. John White, New York, secretary-treasurer. About 200 members attended the sessions.

International Congress of Hygiene.—The International Congress of Hygiene will be held in Paris, October 25-28, under the chairmanship of Prof. Léon Bernard, director of the Institut d'Hygiène of the Faculté de Médecine of Paris. The following topics have been chosen for discussion: (1) the relations of social insurance systems to the public health; speakers, Kuhn, Copenhagen; Holtzmann, Strasbourg, and Briau, Paris; (2) factors influencing the recrudescence of smallpox throughout the world, and the means of combating them; speakers, Professors Ricardo Jorge, Lisbon; Jitta, The Hague, and Camus, Paris; (3) the hygiene of instruction camps; speaker, Médecin-Inspecteur Sacquepée, professor at the Ecole d'Application du Val-de-Grâce. Addresses will also be delivered by Professor Madsen, president of the committee on hygiene of the League of Nations, on "The International Organization of Hygiene"; Professor Nuttall of the University of Cambridge, on "The Relations of Parasitology to Hygiene," and Professor Ottolenghi, professor of hygiene, University of Bologna, on "The Question of Vitamins from the Hygienic Point of View."

American Public Health Association Meeting in Cincinnati.—The fifty-sixth annual meeting of the American Public Health Association will be held at the Hotel Gibson, Cincinnati, October 17-21. There will be two general sessions, six special sessions, four joint sessions, twenty-two section sessions and eight dinner and luncheon sessions, and about 160 speakers will take part in the program. A new feature will be an exhibition of administrative methods in some functions of public health work by cities of more than 40,000 population. There will be demonstrations of methods of popular health education conducted by the National Dairy Council consisting, in part, of "The Teeth That a Club Girl Built" by a team of 4-H Club girls from Iowa, and "The Balanced Meals" and "Punch as the Cook" by girls from New York; there will also be a demonstration of the "Use of Milk in Cooking," and a discussion will follow each demonstration. There will be the usual program of reception, dances and dinners, sight-seeing trips, musicales and teas for the women. The mayor of Cincinnati, Murray Seasongood, will give the address of welcome at the opening general session, Monday morning, and Dr. Charles V. Chapin, Providence, R. I., the president, will speak on "Science and Public Health." At the second general session, Wednesday evening, Dr. Frank G. Boudreau of the health section of the League of Nations, Geneva, Switzerland, will discuss "Recent Activities in the Health Organization of the League of Nations"; at the forum session, Wednesday afternoon, Prof. Charles-Edward A. Winslow, Yale University School of Medicine, New Haven, Conn., will read a paper on "Has Prohibition Promoted Public Health"; this discussion will be continued by Louis I. Dublin, Ph.D.; Dr. Haven Emerson, Columbia University College of Physicians and Surgeons, New York, and Dr. Matthias Nicoll, Jr., state health commissioner, New York. There will be a special session on mental hygiene, Thursday afternoon. At the special session, Tuesday afternoon, Dr. Paul F. Orr, Michigan Department of Health, will give "An Epidemiologic Study of Malta Fever in Michigan." Among others, John F. Norton, Ph.D., associate professor and secretary of the department of bacteriology, University of Chicago, will read a paper on "Residual Germicidal Action of Water Treated with Ultraviolet Light," and J. A. LePrince, U. S. Public Health Service, Washington, D. C., on "Mosquito Production in the Mississippi Valley Flood Area." There will be a symposium on nutrition, the speakers being Dr. Thurman B. Rice, Indianapolis; Dr. Anton J. Carlson, University of Chicago; Prof. Henry C. Sherman, Ph.D., Columbia University, New York; Walter H. Eddy, Ph.D., Teachers' College, Columbia University, and Clifford Brewster Morison, B.S., of the American Institute of Baking, Chicago, and a symposium on chemotherapy by Dr. Arthur S.

Loevenhart, University of Wisconsin Medical School, Madison; Allen E. Stearn; Dr. Oswald M. Gruhzit, Detroit, and Dr. John W. Churchman, Cornell University Medical College, New York. Among other meetings which will be held during the same period will be those of the Association of Women in Public Health, the Ohio Society of Sanitarians, the State Laboratory Directors, the Conference of State Sanitary Engineers, the Annual Conference of Health Commissioners of Ohio, Conference of Committee of One Hundred, School Medical Inspectors and Delta Omega. Further information can be obtained by addressing the secretary of the American Public Health Association, 370 Seventh Avenue, New York.

CANADA

Infantile Paralysis in Alberta.—Eleven deaths from infantile paralysis had occurred at Alberta in the three weeks preceding September 15, it is reported; many persons were then in quarantine and the opening of schools had been deferred.

Dr. Smith Appointed Professor of Pathology.—Dr. Ralph Paterson Smith has been appointed professor of pathology, Dalhousie University, and pathologist to the Victoria General Hospital to succeed Dr. Albert G. Nicholls. Dr. Smith graduated in medicine at Glasgow, served during the World War, and spent two years in Egypt in pathologic work with the Royal Army Medical Corps. According to the *Canadian Medical Association Journal*, he has held teaching appointments in pathology at the Universities of Glasgow and Durham, and research appointments with the medical research committee.

Scholarships at McGill University.—The Faculty of Medicine of McGill University, Montreal, announces that four scholarships, valued at $2,000 each, are being offered to prospective medical students and that they have been donated by laymen to enable Canadian students to study at McGill. Each scholarship is intended to carry the student through his medical studies with little expense to himself. The number of new students entering the medical school has been limited to 100. A record number of applications for admission has been received. By far, the majority of students will be accepted from the Canadian provinces.

Typhoid in Montreal.—Reports received weekly by the U. S. Public Health Service from the provincial health department of the Province of Quebec show the number of cases of typhoid in Montreal this year to have been as shown in the accompanying table, which indicates that there has been a great decrease in the number of cases, but that it has not apparently returned to normal.

Week Ended	Cases	Deaths	Week Ended	Cases	Deaths
January 8	3	1	May 14	367	16
January 15	4	3	May 21	770	26
January 22	1	2	May 28	353	38
January 29	3	1	June 4	239	37
February 5	1	0	June 11	128	36
February 12	0	0	June 18	86	..
February 19	1	2	June 25	75	23
February 26	1	1	July 2	66	21
March 5	9	1	July 9	52	10
March 12	203	4	July 16	39	4
March 19	383	14	July 23	22	9
March 26	568	23	July 30	23	10
April 2	649	48	August 6	16	5
April 9	386	40	August 13	20	5
April 16	175	38	August 20	14	4
April 23	125	43	August 27	8	3
April 30	105	23	September 3	27	..
May 7	106	19			

Deaths in Other Countries

Henry Harvey Littlejohn, regius professor of forensic medicine, University of Edinburgh, in August.——**Sidney Rawson Wilson,** Manchester, England, was found dead in his home, September 13, wearing a mask with which he had been conducting experiments with anesthetics.

CORRECTIONS

Preparation of Lactic Acid Milk Mixtures for Infant Feeding.—In the article by Dr. McKim Marriott, published in THE JOURNAL, September 10, the last line of the formula which appears on page 863 should read "Water to 500 cc., 1 pint."

Personal.—In the news last week, Dr. William Groce Harrison, Birmingham, Ala., was reported to have celebrated his forty-eighth year in the practice of medicine. Dr. Harrison instead gave a dinner to celebrate the forty-eighth year in practice of Dr. John D. S. Davis of Birmingham.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Sept. 3, 1927.

The Present Position of Darwin's Theory of the Descent of Man

The annual meeting of the British Association for the Advancement of Science was held at Leeds. The president, Sir Arthur Keith, delivered an address on the present position of Darwin's theory of the descent of man to an audience of about 2,000 in the Majestic Cinema Hall and to practically the whole country through the medium of broadcasting. He is known to every one as the leading anthropologist and a great exponent of the doctrine of evolution. The retiring president, the Prince of Wales, said in a message to the association: "When any one in this country digs up a bone his first instinct (subject to the intervention of the police) is to send it to Sir Arthur Keith." The address was therefore looked forward to with intense interest by the whole nation. It is curious that sixty-nine years ago the association met at Leeds under the presidency of Sir Richard Owen, the greatest anatomist of the day, who dealt with the work of Darwin, which was then only just beginning to be published, in a very different spirit. Referring to man's origin, he cited evidence which suggested a much earlier date for his appearance on earth than was sanctioned by Biblical records but was scornful of the view that man was a transmuted ape. Sir Arthur Keith contrasted the attitude of Owen's hearers, who were convinced almost without a dissentient that man had appeared on earth by a special act of creation, with that of his own audience, either convinced Darwinists or prepared to believe when full proofs are forthcoming that man began his career as an humble primate and reached his present estate by the action and reaction of biologic forces. Darwin's "Descent of Man" was a book of history—the history of man written in a new way. Darwin's historical documents were gathered from the body and behavior of man and compared with observations made on the body and behavior of every animal that showed the least resemblance to man.

It has been fifty-six years since that history was written; an enormous body of new evidence has poured in. We are now able to fill in many pages which Darwin had perforce to leave blank, and we have found it necessary to alter details, but the fundamentals remain unshaken. So strong has his position become that it never can be shaken. Since his death in 1882 we have succeeded in tracing man by means of his fossil remains and by his stone implements backward in time to the very beginning of the Pleistocene period, reaching a point distant at least 200,000 years, perhaps three times that amount. We have gone further and traced him into the preceding period—the Pliocene. In strata laid down by a stream in Java during the latter part of the Pliocene period Dubois found, ten years after Darwin's death, the fossil remains of that remarkable representative of primitive humanity to which he gave the name *Pithecanthropus*. From Pliocene deposits of East Anglia, Mr. Reid Moir has recovered rude stone implements. If Darwin was right, then as we trace man backward in the scale of time he should become more bestial in form—nearer to the ape. That is what we have found. But if we regard *Pithecanthropus* with his small and simple yet human brain as a fair representative of the men of the Pliocene period, then evolution must have proceeded at an unexpectedly rapid rate to culminate today in the higher races of mankind. The evidence of man's evolution from an apelike being, obtained from a study of fossil

remains, is definite and irrefutable, but the process has been infinitely more complex than was suspected in Darwin's time. Our researches have shown that in remote times the world was peopled with races showing even a greater diversity than those of today, and that already the same process of replacement was at work. To unravel man's pedigree, we have to thread our way, not along the links of a chain, but through the meshes of a complicated network. As we go backward in time we discover that mankind becomes broken up, not into separate races as in the world of today, but into numerous and separate species. When we go into a still more remote past they become so unlike that we have to regard the varieties not as belonging to separate species but to different genera.

It is among this welter of extinct fossil forms strewing the ancient world that we have to trace the zigzag line of man's descent. In 1912 Mr. Charles Dawson discovered a human fossil skull and jaw found at Piltdown, in Sussex. Sir Arthur Smith Woodward described it and recognized that this individual lived, as was determined by geological and other evidence, in the opening phase of the Pleistocene period. The skull might well have been the rude forerunner of a modern skull, but the lower jaw was so apelike that some experts denied that it went with the human fossil skull at all, and supposed it to be the lower jaw of some extinct kind of chimpanzee. The same irregularity in the progression of parts is evident in the anatomy of *Pithecanthropus,* the oldest and most primitive form of humanity so far discovered. The thigh-bone might easily be that of modern man, the skull-cap that of an ape, but the brain had passed well beyond an anthropoid status. By the discovery of fossil remains we have followed man backward to the close of the Pliocene, a period that endured at least for a quarter of a million years, but we have not yet succeeded in tracing him through this period. All the evidence now at our disposal supports the conclusion that man has arisen from an anthropoid ape not higher in the zoological scale than a chimpanzee, and that the date at which human and anthropoid lines of descent began to diverge lies near the beginning of the Miocene period. On our modest scale of reckoning that gives man the respectable antiquity of about one million years.

Finally, Sir Arthur Keith summarized other evidence that has accumulated since Darwin's day. Prof. G. H. F. Nuttall had shown that the blood of man and that of the great anthropoids gave almost the same reaction. Bacteriologists find that the anthropoid body possesses almost the same susceptibilities to infections and manifests the same reactions as does the body of man. The same elaborate process for establishing a connection between the fetus and the uterus occurred in man and in the anthropoid, but in no other animals. The two have the same vestigial structures. Our greatest authority on the anatomy of the nervous system, Prof. G. Elliot Smith, says: "No structure found in the brain of an ape is lacking in the human brain, and, on the other hand, the human brain reveals no formation not present in the brain of the gorilla or chimpanzee. The only distinctive feature of the human brain is a quantitative one."

Street Accidents in London: Three Persons Killed Every Day

The latest returns of the street accidents in London are alarming, 475 people, 317 of them pedestrians, having been killed in street accidents in the first six months of this year. Of these, 228 were killed when crossing the road, 117 through crossing without due care, fifty through hesitating or faltering, and thirty-six through passing between, behind or in front of a stationary vehicle. During April, May and June there were 29,978 street accidents in London, 261 people being killed, making an average of nearly three a day. The number of accidents and of deaths in which the various types of vehicles were concerned was as follows: private motorcars, 10,244 and 82; trade and commercial motor vehicles, 5,373 and 80; trade horse-drawn vehicles, 1,941 and 11; motorcycles, 4,213 and 42; omnibuses, 1,917 and 28; pedal cycles, 3,636 and 8; taxicabs, 1,308 and 8; street cars,, 1,242; others, 104.

Causes of Dampness in Houses

Many prominent members of the Royal Institute of British Architects are engaged on an inquiry, covering both England and Scotland, into the causes of dampness in houses, which, according to a recent report of the British Medical Association, is responsible in large measure for rheumatic heart diseases in children. The investigation has been proceeding for some months, and a special subcommittee of the science standing committee of the institute is now faced with the task of studying the returns that have been collected and drawing its conclusions. Mr. J. E. Franck, an architect who, as chairman of the subcommittee, has given much close attention to the subject, states that the evidence that had been collected was being sifted, and there would be some surprising revelations of the state of houses in many parts. In some instances the proportion of damp houses which might seriously prejudice the health of the occupants, and especially of young children, was one in five. The question of the damp house is really a national one, because good and healthful housing is all important. Damp houses are undoubtedly taking toll of the nation's health, and we are trying to find the root causes of the trouble and devise plans to overcome the difficulties.

PARIS

(From Our Regular Correspondent)

Aug. 23, 1927.

International Congress of Hydrology, Climatology and Geology

The twelfth International Congress of Medical Hydrology, Climatology and Geology will be held at Lyons, October 5-9. There will be also an international exposition of thermal, climatic and maritime resorts.

Subsidies in Support of Medical Research

The municipal council of Paris recently voted an appropriation of 650,000 francs, or $26,000, which will be allotted to various radiographic and electrotherapeutic laboratories, general laboratories of hospitals, laboratories used by heads of services for rapid examinations required in the treatment of patients, and, furthermore, to shops for the manufacture of orthopedic apparatus; medical libraries, for traveling scholarships and in aid of museums.

Reorganization of Medical Studies

Two decrees that have just been promulgated introduce modifications in medical studies. Candidates for the degree of doctor of medicine will register for twenty courses, and before enrolling for the first course they must present in addition to the so-called P. C. N. certificate covering the premedical course in physics, chemistry and the natural sciences, either a bachelor's diploma certifying completion of the usual secondary course of instruction, as has been the requirement for many years past, or the state diploma of "docteur ès-sciences," "docteur ès-lettres," or "docteur en droit," or they must hold the title of "agrégé de l'enseignement secondaire," which is open to both men and women.

A Change in the Service of Mental Prophylaxis

The General Council of the Seine has approved the plan of bringing under the control of the Ecole des hautes-études the laboratories of biologic chemistry, physiology and psychology, which are functioning at present under the Service de prophy-

laxie mentale. The center of medical and scientific research thus established will bear the title of Institut de psychiatrie et de prophylaxie mentale de l'Ecole des hautes études.

Commemoration of the Centenary of Pinel

The municipal council of Paris has granted a subsidy to the Société médico-psychologique in commemoration of the centenary of Pinel.

A National Federation of a Class of Injured Persons

The municipal council of Paris has approved the recognition of the Féderation nationale des blessés du poumon et des chirurgicaux as an establishment of public value. The federation has its seat in Paris, 55 Rue Bobillot.

New Vaccination Centers

The number of centers for smallpox vaccination in the region of Paris has been increased in order to prevent a threatened appearance of smallpox. An excellent measure consisted in creating in Paris a vaccination center for natives of northern Africa sojourning in the capital who have seldom submitted to vaccination against smallpox. In addition, the municipal council of Paris recently decided on the creation of an antidiphtheria vaccination center to be located in the Hôpital des Enfants Malades. This new vaccination center will work in connection with the diphtheria laboratory of that hospital and will be placed under the supervision of a chief physician of the Hôpital des Enfants Malades.

Prison Reform and Human Welfare

Among the inmates of our penal institutions are many who are suffering from bodily and mental ailments, and by giving them care one may hope to improve their condition and aid them in redeeming themselves. The inmates are all subjected to a thorough medical examination, which takes in also a study of their physical and mental make-up. The plan has been pursued in Belgium for a number of years, and all incarcerated persons are examined thoroughly by the chief physician of the laboratory of anthropology, who sends the tuberculous to a prison sanatorium, the epileptics to a rural colony, and makes appropriate provision for all the other classes. The most important aid is given by the psychiatric service and several prisons have already provided such a service, which has contributed to the mental and moral improvement of the inmates. A campaign in favor of introducing the Belgian plan in France has been launched. As a result, a similar service to that in Belgium will be established at Loos and will be ready to function by October next.

Vacation Colonies of the Prefecture of Police

The Société amicale et de prevoyance of the prefecture of police of Paris has at Ormey, in the department of Yonne, a vacation colony for the children of its members and for orphans. The work is to be supplemented by the erection of a home for convalescents in the department of Somme, on a large plot of ground presented by Mme. Leullier, mother of the former prefect of police.

Open-Air Classes

A campaign has been launched in favor of open-air classes as a means of combating tuberculosis. Such classes have been functioning for some time in various points of Paris and the suburbs; notably in the Bois de Vincennes, just outside one of the old city gates. They are supported by the authorities. The municipal council of Paris has asked for an appropriation for the open-air schools of the seventeenth arrondissement of Paris.

Physical Education

Physical education is becoming every day more and more an essential part of the system of education. In order to train instructors in physical education for the secondary schools, a special course has been founded, which, at the present time, is in charge of M. Latarjet, correspondent of the Academy of Medicine. The course is being held at the Lycée Michelet, which is located in the outskirts of Paris and has a fine athletic field. This course has a double purpose: (1) to train teachers, and (2) to study into the essential principles of physical education as adapted to the needs of secondary education. Since 1925, the authorities have supplied facilities for becoming acquainted with the principles of physical education. M. Latarjet, however, regards the present program as still inadequate, and plans further developments. The Michelet lycée has been reorganized. An immense gymnasium has been erected on the athletic field, in the shade of tall trees, and grounds for tennis and football (rugby) have been laid out.

A Book on Physicians by a Physician

Dr. Maurice de Fleury, member of the Academy of Medicine, has just put out a volume entitled "Le Médecin," which forms part of a collection "Caractères de ce temps." It is a study on the physicians and the medicine of our day. While the author recognizes the virtues of his colleagues, he does not hesitate to rally them in a pleasant way when occasion arises. Readers will find in the book true portraits of well known physicians, whom they will easily recognize. The author develops the rôle of the laboratory in the modern clinic; also the rôle of psychology and of psychiatry, in which he is an eminent specialist. Dr. Maurice de Fleury publishes regularly scientific articles in a number of periodicals under the pseudonym of Horace Bianchon.

The Dust and Smoke Evil in Paris

In order to oppose the dust and smoke evil of Paris, M. Jacques Lefebvre has proposed a series of measures: The creation of suburbs with homes for workingmen outside the city and extension of the elevated lines; also a more extended use of electricity. The air would be purified likewise by the planting of a large number of trees. In fact, green open squares are indispensable for the public health.

Health Measures Pertaining to Milk

The railway company Chemins de Fer d'Orleans, with the collaboration of local milk stations, is offering for sale at many of its stations bottles of milk hermetically sealed, which allows mothers while traveling to supply their young children with a high quality of milk.

Death of Dr. Maurice de Langenhagen

Dr. Maurice de Langenhagen, medical consultant at Plombières-les-Bains (Vosges), has died. He was one of the best known spa physicians in the country.

Deaths in France

Dr. Louis Dubreuil-Chambardel, who had been a professor in the Ecole de médecine in Tours, died recently in that city. He was president of the Societé d'anthropologie of Paris and author of anthropologic works of great merit.

Dr. Antoine Florand, hospital physician and one of the most eminent practitioners of Paris, has died. He had served for many years on the staff of the Hôpital Lariboisière, and was the teacher of many generations of students. During the war, he was appointed chief physician of the department of contagious diseases at Val de Grâce.

Societies Providing Outings for Children

The association providing vacation centers in mountain regions sent 1,400 children by special train to the mountains of Savoy. In addition, the coopers' guild of London invited fifty young French school children to spend two weeks in England. The Boy Scouts also have done considerable in getting children into the open air.

BUCHAREST

(From Our Regular Correspondent)

Aug. 15, 1927.

Acetonuria in Children

Periodic vomiting in children, according to Professor Pamfil, is frequently connected with acetonemia. In all, the digestive tract is involved. The vomited matter contains acetone, and the breath has the well known odor.

The So-Called Diabetic Flours

There are on the market many foreign diabetic flours which claim to be free from starch and suitable for use as food in cases of diabetes. Some manufacturers have succeeded fairly well in producing gluten flours suitable for bread making, but most of the preparations, and particularly those imported from foreign countries, are expensive, misleading and consequently injurious substitutes for ordinary flour. Various reports on these substances have appeared in this country and recently the Bucharest State Analytic Laboratory has undertaken an investigation of some of the extensively advertised diabetic flour preparations. Of nine samples analyzed, only four had less than the normal proportion of starch, while only one was comparatively free from it. Those which by their composition would be permissible as food for patients with diabetes were for other reasons less serviceable than one would expect. Some were unpalatable and some were unsuitable for making bread, being rather of use in preparing biscuits. The analyst adds that many of the most widely advertised diabetic foods consist solely of whole wheat flour, and by deliberate fraud are sold at enormous prices as wholesome food for diabetic patients. The danger of using such substances, says Dr. Pamfil, is obvious, and he warned his hearers and the public, in general, to beware of diabetic nostrums which are not accompanied by a reliable analysis.

Antirabic Treatment in Roumania

From the report of the statistical bureau of the ministry of health, recently issued, in the last five years 3,942 patients have received antirabic treatment. Nearly half of these had been bitten by animals proved either by laboratory experiments or by other conclusive tests to have been rabid. Out of the total number only twenty-seven deaths occurred, giving a mortality of 0.74 per cent. It is well known, says the report, that bites received on exposed parts are much more likely to cause dangerous results than those occurring on parts covered with clothes, since in the latter case little saliva reaches the wound. As regards the sites of the lesions, 298 occurred on the head and face, and 1,411 on the hands and wrists. The remainder occurred on parts probably protected by clothes. It can be seen from this report that about half of the wounds treated were of the most menacing character. The report gives also an interesting table of the animals by which the bites have been inflicted. As one would expect, dogs are by far the most numerous on the list, but other domestic animals are implicated: cats, horses, cows, mules, pigs and sheep. No less than thirty-four patients were bitten by human beings, themselves victims of hydrophobia.

Extrasystole

In the medical society at Jassy, Dr. Avramescu showed a man, aged 44, whom he had treated for an extrasystole occurring after meals. This arrhythmia had existed for nine months before his admission to the hospital. The pulse curves were characteristic of typical extrasystole. The treatment given was a diet rational for a neurasthenic condition, and quinine. The disturbance was of a ventricular character. Digitalis, strophanthus and their most modern derivatives aggravated the condition. During the course of the treatment, a constant series of pulse tracings was taken which showed that, after the quinine and diet treatment, the cardiac action was improved and, in a short time, the patient increased in weight about 5 Kg.

Cottonseed Oil Not Injurious to Health

A prosecution under the food and drugs act took place at Galatz last week. The defendant was nominally a tradesman in the town, but in reality the action was made against a large Bucharest manufacturing firm that supplied an article known and sold as cooking fat. This was admitted to be a manufactured article, containing about 20 per cent cottonseed oil. The inspector of foods and drugs withdrew the "injurious to health" clause in the summons. The proprietors of the Bucharest firm testified that they had manufactured cooking fats for fifteen years, had sold them under various trade names, and that last year they used no less than 600 tons of cottonseed oil. After several experts had been heard, the court dismissed the case, holding that the act had not been contravened.

ITALY

(From Our Regular Correspondent)

Aug. 15, 1927.

Coordination of the Means of Combating Cancer

The minister of the interior has requested the prefects of the realm to see to it that the societies opposing the advance of cancer shall have sufficient clinical and scientific resources and specialized personnel to provide early diagnosis of cancer and consistent treatment of patients. In localities in which it is impossible to supply adequate personnel and equipment, the circular letter recommends that two or more provinces unite and establish, if only a few, at least completely equipped centers.

National Council of Research

The Gazzetta Ufficiale publishes a royal decree providing for the reorganization of the Consiglio nazionale delle ricerche. The purposes of the council are to coordinate national activities in the various fields of science and its practical applications; to make recommendations to the government concerning laboratories for general or special researches; to furnish, on request, information and opinions to government boards on scientific subjects; to collect Italian bibliographic data on scientific and technical subjects, and provide also for their diffusion in foreign countries; and to propose to the government the creation of scholarships, not only for the homeland but also for foreign countries.

Statistics on Illegitimate Children

The monthly bulletin of the Opera nazionale per la protezione della maternità e dell'infanzia publishes the statement that the illegitimate births in the whole realm in 1922 numbered 50,843; in 1923, 49,272, and in 1924, 53,874. Consequently, in the three years, there were more than 150,000 illegitimate births, or one for each twenty-one legitimate births.

Proposed Reforms in the Medical Curriculum

The minister of public instruction has sent to the medical faculties of all the universities of the realm a questionnaire containing sixteen questions pertaining to the study of medicine, with the idea of introducing possible modifications in the curriculum. Some of the more important questions are the following: 1. How can scientific tendencies best be harmonized with professional preparation? 2. Is it feasible to divide studies in medicine and surgery into a preparatory course and a course in clinical application? 3. How many years should be covered by the entire period of medical study, or, possibly, by a single course and, in addition, some specialty? 4. Should a period of practice in the hospitals

and the clinics be demanded of candidates who have successfully passed the state examination? 5. Should the diploma be conferred after the complete course of study, or after the state examination has been passed? 6. Should the instruction be divided into compulsory and optional courses? 7. Should related subjects be combined in a single institute, with a view to securing unity of direction in the instruction? 8. Should the number of students enrolled be limited with relation to the didactic means at the disposal of the faculty? 9. How should graduate courses for the training of specialists be organized?

Special Policemen for the Protection of Children

The executive council of the Opera per la protezione dell'infanzia has decided to create the first nucleus of special policemen for the protection of children in the more populous cities. They will be selected by means of competitive tests from among the noncommissioned officers of the carabineers on furlough. They will be required to assist the patrons of the Opera Nazionale in the discharge of their duties, more particularly with regard to the registration and placement of neglected children. In addition, they will always be ready to intervene in all cases in which it appears that a child has been maltreated, or exposed in any way to a danger or to an abuse.

Professional Interests

The national convention of the Italian medical "syndicates" met recently in Rome. After the opening meeting, which was addressed by Dr. Cazzella, chairman of the committee on organization, and by Rossoni, the conventionists met in Campidoglio, under the chairmanship of Dr. Guaccero. In his address, Dr. Fioretti explained the work of the Corporazione Medica, emphasizing the advantages brought about by the institution in all Italy of "residential administration" and by the recognition on the part of the communes of their duties toward the medical directors. The speaker discussed also the subject of compulsory insurance against disease and the question of the abuses that are creeping into the sanitary professions. Pini of Florence proposed a resolution to the effect that the physicians of the hospital for the insane should have complete control of the professional management. The resolution was adopted by the assembly. Cipollino of Novara proposed that the society request the national government to organize the hospital school in accordance with the demands of liberal teaching, placing it under the direct supervision of the neighboring university. In that way the liberal courses of the university will be better developed and the didactic material of the large hospitals will be utilized whereas today it is wasted, to a large extent. Piccinini of Milan spoke of the emigration of Italian physicians to foreign countries. He suggested that the medical press put itself in a position to inform those interested in regard to the actual conditions that they may find in various countries.

The proposed constitution of the Corporazione Medica was approved, and the new directorate was elected.

Pacifiers and Artificial Nipples

The time limit set by the decree published in December, 1926, for the sale of pacifiers, artificial nipples, yellow amber articles, and the like, not meeting with the requirements of the law, expired recently. According to the terms of the law that has now gone into effect, the importation, the manufacture and the sale in Italy of the following articles are prohibited: (1) so-called *poppatoi a tubo*, or "tube nipples," or single pieces from which they can be made; (2) pacifiers, rings to aid dentition, and the like, unless they are made of rubber. The rubber used for the manufacture of these articles must have special qualities that assure its absolute harmlessness.

BERLIN

(From Our Regular Correspondent)

Aug. 20, 1927.

Causes of Infant Mortality

Infant mortality no longer attains a "summer peak," but, instead, a distinct increase of deaths in winter in children under 1 year of age is observed. This marked change, as Professor Schlossmann of Düsseldorf has recently brought out in the *Klinische Wochenschrift*, is becoming constantly more apparent. In 1925 in the government district of Düsseldorf there were 168 fewer infant deaths per 10,000 than in 1913, but of children under 1 year of age, in 1925 relatively more died than in 1913. In 1913, only a third of all infant deaths occurred during the first month; in 1925, however, almost half. With the second month of life, the mortality in 1925 dropped so rapidly, as compared with 1913, that the mortality for the year as a whole fell below that of 1913. In 1925, in spite of the fact that there were 30,499 fewer children born and that 4,725 fewer died, twenty-eight more children died on the first day of life. Also the second and the third day showed a greater number of deaths than in 1913. Whereas the mortality on the first day of life in 1913 was much lower in the rural districts than in the urban centers, in 1925 the reverse was true. The reason for this lay chiefly in the fact that the care of illegitimate children was less efficient.

There is no convincing explanation of the increased mortality of infants during the first days of life. Schlossmann thinks that medical care can accomplish relatively little, since, during the first few days, the life of the child depends mainly on the midwife. Medical care at childbirth plays an essential part, as we are coming to realize how important the whole birth process is for the fate of the child. Extension of home care by visiting nurses, and the improvement of children's centers at maternity hospitals through the introduction of more skilled medical personnel for the care of the new-born, are some of the measures that must be consistently carried out. Finally, Schlossmann calls attention to the fact that in Germany, where hundreds of thousands of men and women are out of work and therefore must receive assistance, about 5 per cent of all the women who give birth to children work up to within a few days of their confinement, and many up to the actual day. A law has, however, been recently passed that will doubtless do away with this condition.

A Proposed Law Regulating the Licensing of Bars for Alcoholic Beverages

A proposed law regulating the licensing of bars for the dispensing of alcoholic beverages has passed the first reading in the reichstag. The proposed law is directed against the abuse of alcoholic beverages. It limits the number of licensed bars and stresses the importance of protecting the youth of the land. The bill, however, repudiates the idea of nation-wide prohibition and also the *gemeindebestimmungsrecht*, or the principle of local option, to which reference was made in a previous letter. According to section 1 of the bill, permission to open a hotel or restaurant, with the privilege of dispensing brandy (*branntwein*), shall not be granted unless there is need for it. The federal government, with the consent of the federal council (*reichsrat*), shall have the right to determine under what conditions a need exists. Even though the need of such a bar can be shown, permission to establish it may be refused (section 2) if the petitioner is known to be of unreliable character, or if the regulations concerning the employment of workmen and other assistants are not observed, or if the location and equipment of the proposed bar are unsuitable. Later sections of the bill state the conditions under which a granted license may or must

be revoked; for example, owing to falsified statements or to nonfulfilment of regulations. The dispensing of brandy and the retail trade in brandy may be prohibited or restricted during certain hours of the morning and on two days of the week (especially on pay days). To persons under 18 years of age no brandy may be dispensed for a consideration in a hotel or restaurant, bar or retail shop. No other alcoholic beverages or nicotine-containing products may be sold to children under 14 years of age in the absence of the parents, teacher or guardian (or a representative). Furthermore, the dispensing of alcoholic beverages to intoxicated persons is prohibited; also the sale of brandy or products containing brandy by means of slot-machines or automatic devices. No hotel or restaurant may establish the condition that no food will be served unless beverages are ordered; nor may the charges for food be increased when no beverages are ordered.

School Inspection Service in Berlin

Until recently, school inspection in Berlin was not organized on a systematic and uniform basis. A number of the twenty districts of Berlin that had had a good public health service for many years, more particularly Charlottenburg, Schöneberg and Neukölln, when annexed to Greater Berlin, had partially developed school inspection services. In the six inner districts of Berlin there had been for more than twenty years a systematic school inspection service. To be sure, every school physician in Old-Berlin had too many children under his charge. Many schools were lacking also in suitable rooms for school inspection purposes. In many of the outer districts of Berlin, however, there had been no school inspection worthy of the name up to the time of the organization of Greater Berlin.

For some time past, the lack of uniformity in the school inspection services has been a great disadvantage. In Old-Berlin and Charlottenburg there were only part-time school physicians, while in Spandau and Lichtenberg there were only full-time physicians. There were places with a mixed system, and in many of the outlying districts there were schools whose pupils were examined occasionally by a practicing physician residing in the vicinity, but there was no systematic inspection.

A reform, the necessity for which has been generally recognized for many years, has now been introduced which establishes a uniform system of school inspection throughout Greater Berlin. By the new law, full-time inspectors have been established, in the main. No city school physician will be permitted to have charge of more than 6,000 pupils. In case the number of pupils decreases, which is anticipated in view of the decrease in the birth rate, the number of school physicians is to remain the same, so that it is expected that, in a few years, there will be only from 4,000 to 5,000 school children in charge of one inspector. Every school physician is given two women assistants, for which duty the state certificate of a nurse and social worker will be demanded. In a few outlying districts, in which the schools lie far apart and the number of pupils is small, practitioners will continue to serve as part-time inspectors, but they will not be permitted to have charge of more than 2,500 pupils. The part-time school physicians who are dismissed under the new system will receive compensation. It is estimated that thirty-three new full-time school physicians will be engaged in the near future.

The new regulations affect the municipal primary, secondary and higher institutions of learning. The professional and continuation schools, the state higher institutions of learning and private schools are not influenced by the law. The desire is entertained, however, that, before long, the system may be extended to these professional and continuation schools.

Marriages

GILBERT J. GOOS-DALLDORF, Davenport, Iowa, to Dr. FRANCES ELIZABETH BARNHART of Omaha, recently.

WILLIAM ROSS MORRIS, Alpoca, W. Va., to Miss Helen Virginia Spencer of Covel, June 8.

CLAUDE R. WATSON, Mitchell, Neb., to Miss Mabel Claire McDaniel of Scottsbluff, June 6.

PAUL BENNETT, Covington, Ky., to Miss Alleen Long of Dayton, August 31.

LEO J. HAND, Chicago, to Miss Anna Mary Crippen of Omaha, recently.

Deaths

Henry James Nichols ✠ Lieut. Colonel, M. C., U. S. Army, died, September 3, at the Ancon Hospital, Ancon, Canal Zone, following an operation for appendicitis. Colonel Nichols was born in 1877, and graduated from the University of Pennsylvania School of Medicine in 1904. He entered the army as an assistant surgeon in 1906 and after passing through the lower grades became lieutenant colonel in 1926, having also held this grade during the World War. He was formerly an associate in bacteriology and pathology, George Washington University Medical School, Washington, D. C., an instructor in bacteriology and pathology at the Army Medical School, 1910-1914, assistant director of laboratories, 1911-1914, and director of laboratories, 1923-1926. Colonel Nichols was a member of the American Society for Experimental Pathology, the Society of American Bacteriologists and the American Society of Clinical Pathologists and past president of the American Society of Tropical Medicine. In 1908, he was in charge of the Mary J. Johnson Cholera Hospital in the Philippine Islands. He was the author of "Carriers in Infectious Diseases," and of many other contributions to medical literature, and was formerly editor of the *American Journal of Tropical Medicine*. He was one of the pioneers in the development and production of typhoid vaccine and in the use of arsphenamine in this country.

Edward Wallace Lee ✠ New York; University of Michigan Medical School, Ann Arbor, 1881; formerly professor of surgery, Omaha Medical College and the Creighton Medical College, Omaha; served for a time as recruiting officer at New York and as surgeon at San Juan, P. R., during the World War; on the staffs of the New York Polyclinic Medical School and Hospital and the Broad Street Hospital, and formerly on the staffs of the St. Joseph's, Douglas County and City hospitals, Omaha; author of several monographs on medical subjects; aged 68; died, September 8, at Randolph, N. Y., following a long illness.

John Richard Dale, Texarkana, Ark.; Jefferson Medical College of Philadelphia, 1872; member of the Arkansas Medical Society; past president of the Miller County Medical Society; formerly professor of special surgery, Marion-Sims-Beaumont Medical College, St. Louis; at one time proprietor of a sanatorium bearing his name; aged 78; died, August 25, at his summer home in Caddo Gap.

Burton W. Henderson, Chicago; Hahnemann Medical College and Hospital, Chicago, 1894; member of the Illinois State Medical Society; formerly associate professor of clinical medicine at his alma mater; on the staff of the Chicago Memorial Hospital; aged 60; died, September 11, of uremia and nephritis.

Charles Cartlidge Godfrey ✠ Bridgeport, Conn.; Dartmouth Medical School, Hanover, N. H., 1884; past president and vice president of the Connecticut State Medical Society; formerly member of the state legislature; on the staffs of the Bridgeport and St. Vincent's hospitals; aged 72; died, August 31.

Louis Greenlee Patty ✠ Carroll, Iowa; Jefferson Medical College of Philadelphia, 1893; at one time secretary of the Carroll County Medical Society; formerly on the staff of St. Anthony's Hospital; for twenty years health officer of Carroll; aged 63; died, August 15, of cerebral hemorrhage.

Dwight Eleazer Cone, Fall River, Mass.; Medical Department of the University of the City of New York, 1876; member of the Massachusetts Medical Society; formerly on the staffs of the Union and City hospitals; aged 73; died, August 31, of cerebral hemorrhage.

Francis Lee Dunham ✠ Baltimore; University of Vermont College of Medicine, Burlington, 1897; formerly instructor in clinical psychiatry, Johns Hopkins University School of Medicine; psychiatrist to the Juvenile Court of Baltimore; aged 58; died, September 4, at the Union Memorial Hospital, of heart disease.

John Noble, Toronto, Ont., Canada; Victoria University Medical Department, Toronto, 1889; University of Toronto Faculty of Medicine, 1892; formerly chairman and for many years a member of the board of education; aged 72; died, September 6, at the Wellesley Hospital.

John Knox Burns, Clarkesville, Ga.; University of Georgia Medical Department, Augusta, 1884; member of the Medical Association of Georgia; bank president; for many years mayor, and a member of the city council and board of education; aged 66; died, July 27.

George Herman Simon, St. Paul; Northwestern University Medical School, Chicago, 1909; member of the Minnesota State Medical Association; aged 44; died, August 6, at St. Joseph's Hospital, of streptococcus meningitis, following a frontal sinus infection.

Kenton C. Hershey, Carmel, Ind.; Indiana Medical College, Indianapolis, 1877; member of the Indiana State Medical Association; past president of the Hamilton County Medical Society; aged 71; died, August 26, of cerebral hemorrhage.

Charles Williamson Scarborough, Madison, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1893; formerly member of the Madison Board of Health, and board of education; aged 60; died, August 6, of carcinoma of the stomach.

John Landon Woodson, Birmingham, Ala.; Vanderbilt University School of Medicine, Nashville, Tenn., 1892; member of the Medical Association of the State of Alabama; served during the World War; aged 58; died suddenly, July 23.

Charles Hewson Canning ✠ Atlantic City, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1908; past president of the Atlantic County Medical Society; served during the World War; aged 45; died, August 26, of typhoid.

Walter Charles Nevin, Lisbon, Ohio; Jefferson Medical College of Philadelphia, 1890; member of the Ohio State Medical Association; aged 64; died, July 18, at the Central Clinic and Hospital, Salem, following a cerebral hemorrhage.

Daniel B. Hamilton, Mason, Ohio; Ohio Medical University, Columbus, 1897; member of the Ohio State Medical Association; aged 59; died, August 21, at the Christ Hospital, Cincinnati, of cirrhosis of the liver and nephritis.

Gerald Wallace Grant, Halifax, N. S., Canada; University of Edinburgh, Scotland, 1916; demonstrator in anatomy and pathology, Dalhousie University Faculty of Medicine; on the staff of the Camp Hill Hospital; aged 35; died, May 20.

Wilson Jones Smathers, Dubois, Pa.; Jefferson Medical College of Philadelphia, 1873; formerly president of the school board, and president and secretary of the board of health of Dubois; aged 76; died, August 16, of diabetes mellitus.

Richard Bew ✠ Atlantic City, N. J.; Jefferson Medical College of Philadelphia, 1910; on the staff of the Atlantic City Hospital; aged 45; was killed, September 4, by the propeller of a yacht as he was swimming near the steel pier.

Jesse A. Ballou, Rushville, Ill.; University of Illinois College of Medicine, Chicago, 1905; member of the Illinois State Medical Society; on the staff of the Culbertson Hospital; aged 49; died, September 1, of bronchopneumonia.

James Newton Clarke, Moscow, Idaho; Rush Medical College, Chicago, 1885; member of the Idaho State Medical Association; health officer of Moscow and formerly mayor; aged 70; died, August 21, of bronchopneumonia.

Robert Stevenson ✠ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1899; for many years on the staffs of the Greenpoint, Kingston Avenue and St. Catherine's hospitals; aged 50; died, August 22.

A. Garfield Schnabel ✠ Tucson, Ariz.; Cleveland Homeopathic Medical College, 1906; health officer of Tucson; member of the state board of medical examiners; aged 47; died, August 7, of acute dilatation of the heart.

Ivan Michael Schneible ✠ Greenwich, N. Y.; Albany Medical College, 1917; served during the World War; health officer of Greenwich; aged 37; died, August 2, at the Glens Falls (N. Y.) Hospital of pneumonia.

Charles H. Chastain ✠ Weston, Mo.; University of Arkansas School of Medicine, Little Rock, 1900; aged 52; died, August 20, at St. Joseph's Hospital, Kansas City, of injuries received in an automobile accident.

William Augustus Valentine, Ballston Spa, N. Y.; Medical Department of Columbia College, New York, 1875; member of the Medical Society of the State of New York; aged 78; died, August 28, of angina pectoris.

Daniel S. Jones, Royal, Iowa; Starling Medical College, Columbus, Ohio, 1895; member of the Iowa State Medical Society; aged 62; died, August 9, at the Spencer (Iowa) Hospital, of chronic nephritis.

Thomas A. Noble ✠ Harvey, Ill.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1889; chief of staff at the Ingalls Memorial Hospital; aged 68; died, September 12, of heart disease.

John W. Huston, Juneau, Alaska; University of Oregon Medical School, Portland, 1922; superintendent of the U. S. Hospital for Natives; aged 32; was accidentally drowned in the Yukon River, July 17.

G. Gilbert Praetorius, Chicago; University of Pennsylvania School of Medicine, Philadelphia, 1883; member of the Illinois State Medical Society; aged 66; died, September 1, of chronic myocarditis and nephritis.

Stephen Oscar Myers, Mount Vernon, N. Y.; Albany Medical College, 1873; served at various times as city physician and health officer; aged 80; died, September 7, of chronic endocarditis and uremia.

Andrew Wilson Rush ✠ Greenville, Ohio; Miami Medical College, Cincinnati, 1884; aged 67; died, August 19, at the Miami Valley Hospital, Dayton, of peritonitis, following an operation for gallstones.

Alexander Wyatt Irwin, Floresville, Texas; University of Tennessee College of Medicine, Memphis, 1885; Hospital College of Medicine, Louisville, 1895; aged 74; died, June 13, following a long illness.

Bela Geyza Illes ✠ Lancaster, Ohio; Medical School of Maine, Portland, 1897; formerly on the staff of St. Peter's Hospital, New Brunswick, N. J.; aged 62; died, August 26, of angina pectoris.

George F. Beeler, Clinton, Ky.; University of Louisville School of Medicine, 1891; member of the Kentucky State Medical Association; aged 61; died suddenly, August 20, of heart disease.

William Henry Witter ✠ Cleveland; University of Michigan Medical School, Ann Arbor, 1897; member of the Michigan State Medical Society; aged 55; died, July 8, of acute pancreatitis.

Edward A. Glasgow ✠ Mulberry Grove, Ill.; Marion-Sims College of Medicine, St. Louis, 1899; past president of the Bond County Medical Society; aged 57; hanged himself, August 17.

George F. Pugh, Florence, S. D.; University of Nebraska College of Medicine, Omaha, 1898; member of the South Dakota State Medical Association; aged 65; was drowned, August 7.

William T. Erwin, National Soldiers Home, Va.; Chattanooga Medical College, 1897; on the staff of the National Soldiers' Home; aged 55; died suddenly, August 25, of heart disease.

William Baltzell Burch, Baltimore; University of Maryland School of Medicine, Baltimore, 1890; member of the Medical and Chirurgical Faculty of Maryland; aged 61; died, August 25.

George W. Spohn, Pasadena, Calif.; Medical College of Ohio, Cincinnati, 1887; member of the American Academy of Ophthalmology and Oto-Laryngology; aged 70; died, July 23.

Charles Kerr, Maple Creek, Sask., Canada; University of Manitoba Faculty of Medicine, Winnipeg, Man., 1906; aged 49; died, recently, at the General Hospital, Vancouver.

James W. Frew, Milwaukee; Milwaukee Medical College, 1899; member of the State Medical Society of Wisconsin; served during the World War; aged 57; died, July 8.

Thomas William Thompson, Sandflat, Texas (licensed, Texas, under the Act of 1907); member of the State Medical Association of Texas; aged 63; died, May 23.

John W. Heffley, Mentone, Ind.; Eclectic Medical Institute, Cincinnati, 1876; aged 73; died, August 2, of paralysis, at the home of his daughter in Muskegon, Mich.

George W. Farrar, Jr., Ironton, Mo.; St. Louis Medical College, 1880; formerly coroner of Iron County; aged 68; died suddenly, September 10, of heart disease.

Charles Allan Yates ✠ Kendall, Wis.; University of Illinois College of Medicine, Chicago, 1896; aged 57; died, July 30, at Rochester, Minn., of heart disease.

Isaac Montgomery Lovett, Lineville, Iowa; Keokuk Medical College, 1891; member of the Iowa State Medical Society; aged 58; died, May 24, of angina pectoris.

Henry M. Penrice, Chicago; University of Illinois College of Medicine, Chicago, 1903; aged 63; died, August 18, of chronic myocarditis and arteriosclerosis.

Joseph A. Sienknecht, Oliver Springs, Tenn.; University of Nashville Medical Department, 1898; aged 51; was found dead, August 24, of a skull fracture.

Silas Marion Seeds, Columbus, Ohio; College of Physicians and Surgeons, Keokuk, Iowa, 1864; Civil War veteran; aged 90; died, July 20, of senility.

Paul Morse Patterson, Chicago; University of Michigan Medical School, Ann Arbor, 1906; aged 48; was killed in an automobile accident, August 15.

William Edward Rectenwald, Bell, Calif.; University of Louisville (Ky.) School of Medicine, 1917; aged 34; was drowned in a bath tub, June 1.

James S. Goodrich, Lexington, Ky.; University of Louisville School of Medicine, 1903; aged 58; died suddenly, August 28, of cerebral hemorrhage.

George Volney Ketchum, Portland, Ore.; Western Reserve University School of Medicine, Cleveland, 1880; aged 69; died, July 27, of myocarditis.

Frank Wellington Dennis ✠ Newburgh, N. Y.; University of Michigan Medical School, Ann Arbor, 1881; aged 69; died, July 14, of chronic nephritis.

William Burnside ✠ Barbourville, Ky.; St. Louis College of Physicians and Surgeons, 1889; aged 82; died suddenly, August 27, of heart disease.

William Edward Eustace Little, Kingston, N. Y.; College of Physicians and Surgeons, Baltimore, 1884; aged 65; died, July 23, of myocarditis.

Jesse E. Ross ✠ Henderson, Texas; Memphis (Tenn.) Hospital Medical College, 1885; aged 68; died, May 6, at Houston, of cerebral hemorrhage.

Lucius Byron Wheeler, Lay, Colo.; Hering Medical College, Chicago, 1910; aged 43; was drowned while swimming in Bear River, August 14.

Edward Winslow Dunlop, Port Dufferin, N. S., Canada; University of Vermont College of Medicine, Burlington, 1891; died, May 19.

Perry Pinson, Paris, Texas; University of Louisville (Ky.) School of Medicine, 1891; aged 69; died, August 19, of cerebral hemorrhage.

Francisco Matanzo ✠ New York; University of Barcelona, Spain, 1906; University of Madrid, Spain, 1906; aged 48; died, June 26.

Horace Hamilton Kinney ✠ Tupela, Miss. (licensed, Mississippi, 1904); aged 50; died, August 27, of cerebral hemorrhage.

George Rollings Coates, Pittsburgh; Western Pennsylvania Medical College, 1903; aged 49; died, September 5, of pneumonia.

Parker Willard Pheneger, Columbus, Ohio; Columbus Medical College, 1882; aged 68; died, July 13, of heart disease.

Albert H. Nesbitt, Dayton, Ohio; Eclectic Medical Institute, Cincinnati, 1882; aged 76; died, August 25, of gastric ulcer.

Gustav Schirmer, Chicago; University of Erlangen, Germany, 1882; aged 71; died, September 11, of cerebral thrombosis.

Edward Ladoucour, Warren, Mich.; Michigan College of Medicine and Surgery, Detroit, 1892; aged 65; died, July 14.

John C. Bonham, Ottumwa, Iowa; Hahnemann Medical College and Hospital, Chicago, 1883; aged 68; died, August 1.

John Philip Armour, St. Catherines, Ont., Canada; University of Toronto Faculty of Medicine, 1877; died, June 22.

Harriet A. Spaulding Clark, Arkansas City, Kan.; Kansas Medical College, Topeka, 1897; aged 67; died, August 13.

John Albert Hurt, Cleveland; Cleveland College of Physicians and Surgeons, 1902; aged 49; died, July 12.

Charles Hubert Sherman, Dallas, Texas; Louisville (Ky.) Medical College, 1889; aged 60; died, August 17.

Correspondence

NEPHROSIS

To the Editor:—I cannot offhand state how recent is our clinical conception of nephrosis as a degenerative, noninflammatory, metabolic disturbance of the kidney and other body tissues, but it is interesting to note that Robert Graves recognized such a condition and understood its correct management. In his lectures on scarlatina (Graves, R. J.: Clinical Lectures on the Practise of Medicine, publications of the New Sydenham Society **1**:404-405, 1884) he says:

> Albuminous urine is here, as Dr. Blackall observes, merely an indication of a peculiar inflammatory condition of the whole system, and not of degeneration of the kidneys. I may observe, however, that this is not invariably the case, for I could point out examples where albuminous urine is connected with an apparently opposite condition of the system; in fact, a condition demanding the use of a generous diet and tonics.
>
> Hence, there must be great diversity in the treatment of dropsy with albuminous urine. Where it occurs after scarlatina and is accompanied by febrile symptoms, it is best treated by the lancet, nitre, purgatives and digitalis; but where it occurs in chronic cases, without any remarkable excitement of the vascular system, without organic disease, and with more or less debility, it requires to be treated with tonics, generous diet, and full doses of opium.

ARTHUR N. FOXE, M.D., New York.

LIVER DIET FOR HEMERALOPIA

To the Editor:—With reference to the series of articles in THE JOURNAL about liver diet in pernicious anemia, permit me kindly to call attention to the chapter "Hemeralopia" in Prof. Dr. Ernst Fuchs' Lehrbuch der Augenheilkunde (textbook of eye diseases), edition 12, Leipzig-Vienna, 1910, pages 661 and 662.

There for the treatment of hemeralopia cooked liver as well as cod liver oil is recommended as a popular, old and successful remedy. Hemeralopia is there said to be a nutritive disturbance of the retina due to many causes, mainly general malnutrition, febris intermittens, icterus and scorbutus.

CHARLES J. MEHLMANN, M.D., New York.

CONGENITALLY ABSENT GALLBLADDER

To the Editor:—In his article on congenitally absent gallbladder in THE JOURNAL, August 27, Dr. Golob refers to my article entitled "Cholecystography and Lyon Meltzer Test in a Patient with a Congenitally Absent Gallbladder" (*Am. J. M. Sc.* **173**:682 [May] 1927). I sincerely appreciate the honor Dr. Golob confers on me by quoting my article, but I believe that he missed the crux of the situation, because the surgeon, as I had stated in my article, had very carefully examined for dilatation of the biliary ducts, but no dilatation of the ducts could be found. The B bile (the bile which is supposed to come from the gallbladder) could therefore not have come from dilated ducts.

WILLIAM LINTZ, M.D., Brooklyn.

NURSES AND NURSING

To the Editor:—In a recent issue I noticed an article by Dr. Abt regarding nurses. I agree fully with him. Twice within the last year I have had nurses who came on cases without even a hypodermic. I lent them each one and failed to have them returned. In twelve cases, only one nurse had printed records. In most instances the nurse fails to take any interest in her patient or her records.

I believe the fault belongs to three causes: lack of interest, no pride in registry, and too much money. A few years ago I received much better service when nurses came directly from the hospital. They displayed more pride in their work, their hospital and themselves.

Since the eight hour service in hospitals was inaugurated there has been more chance existing to pass the buck from one shift to another. The large registries, more money and more time off duty are all factors in the present trouble. Relief is demanded for this and that until a nurse actually works only five or six hours daily. It will be a great relief if the present situation is remedied.

GEORGE C. STIMPSON, M.D., Poy Sippi, Wis.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIAGNOSIS OF GLIOMA

To the Editor:—Is the diagnosis of retinal glioma facilitated by the use of an ophthalmoscope employing a green, or a red-free, light or by the use of any other particular light? My attention was called a few days ago to a statement attributed to de Schweinitz in which he is alleged to have said that some particular diagnostic light was very valuable in the diagnosis of glioma of the retina.

LUCIEN BROWN, M.D., Gadsden, Ala.

ANSWER.—The probability is that a misunderstanding occurred somewhere. Ophthalmoscopy with red-free light is of great value in certain cases, notably light exudations superficially in the retina; but no specific diagnostic features of retinal glioma can be brought out by this or any other method.

TREATMENT OF HYPERTENSION

To the Editor:—I have a patient, a woman, aged about 63, who has had essential hypertension for the past five years, which has resisted all forms of treatment. The blood pressure fluctuated between 210 and 180 systolic, and 110 and 90 diastolic. Her complaints consist essentially of marked dizziness to such an extent that she is ataxic in her gait. Her treatment has consisted of rest in bed for weeks, a low protein, salt-free diet, and internal medication, consisting of glyceryl trinitrate, potassium iodide, theobromine sodiosalicylate, and hypnotics, such as phenobarbital. Is there any additional treatment that you would suggest to reduce this persistent high blood pressure? Another chief complaint of the patient consists of a burning sensation over the left upper half of the face, especially over the forehead. This seems to be a local paresthesia of a vasomotor nature of arteriosclerotic origin. All local applications have not produced any relief. Is there any other local therapy that you could suggest? What do you think of the galvanic current for this local condition?

M.D., New Jersey.

ANSWER.—No additional treatment can be suggested, and none should be attempted unless some known underlying pathologic change offers a definite objective. High blood pressure of itself is best left alone, and usually a fall of pressure in such cases is ominous. Venesection may be tried, up to 500 cc., and may relieve some of the subjective symptoms, but will not effect any sustained fall in pressure. Théohari thought that theophylline reduced pressure without depressant effect, but it is of doubtful value. Diet should not be reduced to below the patient's needs. There is no local treatment. The galvanic current has not been demonstrated to be of value, but is harmless.

ULTRAVIOLET TREATMENT OF BIRTHMARKS

To the Editor:—I have received a reprint entitled "Birth Marks" dealing with the ultraviolet treatment of these lesions. The author of the article is Dr. Lynne B. Greene of Kansas City, Mo. This paper sounds a little bit unscientific, inasmuch as he gives no technic, etc. I am wondering what kind of association this Western Therapeutic Association is. Also, can birthmarks be treated as successfully by ultraviolet radiation as is claimed? If so, can you tell me where definite information and technic as to these treatments can be obtained?

M.D., South Dakota.

ANSWER.—The paper mentioned appears to be full of claptrap, false claims and general hyperenthusiasm. It is interesting to analyze a few of the statements. "For, in skilful hands, these disfiguring lesions are, by special ultraviolet ray technic, removed with comfort and an almost miraculous restoration of the normal skin coloration." That is not so; angiomas can sometimes be improved, occasionally greatly, by ultraviolet rays; but as a rule the method is not successful. In the best cases it produces only improvement and never any restoration of the normal skin that by any stretch of an intelligent man's imagination could be called miraculous.

The author talks about the scientific knowledge of birthmarks. "A birthmark is medically [sic] known under the name angioma." Perhaps he does not know that an angioma is only one kind of a birthmark. It would be just as intelligent to say that an animal is scientifically known under the name horse. An animal may be a horse, but it may be a great many other things.

The explanation of the way the ultraviolet rays work in destroying an angioma is worthy of a street corner lecture: "When a correct deep exposure is made, a peculiar network of what appear to be little black threads replaces the former capillary site. . . . The chemical influence of the rays has changed the constituency of the remaining blood and the walls of its vessel into virtual foreign bodies which, by nature's usual means, are absorbed and the disfigurement fades without any disturbance of the skin whatsoever, leaving it unchanged, perfectly normal in texture, function and appearance." None of that is so. Little black threads do not appear and, as for the rest, it seems to be the figment of an ignorant and not very ingenious imagination. The whole tone of the paper is that this treatment requires such extraordinary skill that only the expert can do it and the inference is direct that one of the experts who can do it is the author of the paper. "In other words there are many clever little tricks, amounting to those of the real genius as a colorist, learned only by long study, observation and experience, and to work without a complete knowledge of them is utter folly and exceedingly disastrous."

GINGER ALE IN DIABETES

To the Editor:—Is Canada Dry ginger ale a suitable drink for patients with diabetes?

B. L. HALE, M.D., Cherryvale, Kan.

ANSWER.—It is not. It contains a considerable amount of sugar.

DIAGNOSIS AND TREATMENT OF UNDULANT FEVER

To the Editor:—Please furnish me with the latest information as to diagnosis and treatment of Malta fever. Please omit my name.

M.D., Guanajuato, Mexico.

ANSWER.—After an incubation period of from six to fifteen days, the disease begins gradually with headache, pains in the back and limbs, general malaise and fever. The severity of the symptoms increases daily with morning remissions, until a maximum temperature of 104 F. is reached. The remissions are accompanied by profuse perspiration. The fever lasts from one to four weeks, the temperature gradually falling to normal, where it remains several days, when there is a relapse similar in all aspects to the first attack, but often shorter and less severe. This sequence is repeated, the duration varying from six or eight weeks to a year or more. The patient is depressed and frequently complains of insomnia and of neuralgic pains in various parts of the body, especially in the region of the sciatic nerves, during the fever. Transient attacks of arthritis, chiefly of the larger joints, are also common. The spleen is enlarged and tender, the count of white cells normal or slightly reduced. Secondary anemia, with loss of flesh and strength, usually ensue. Orchitis is a somewhat frequent complication.

Besides the ordinary form of the disease, according to Stevens, a malignant type occurs marked by a sudden onset of high temperature and early signs of cardiac failure. In an ambulatory type the constitutional symptoms are absent and the only evidence of the disease is the presence of agglutinins in the blood and perhaps of the specific organism itself in the blood or urine.

Positive diagnosis is not possible without trying the Widal serum reaction with *Micrococcus melitensis* and with *Brucella abortus*.

The rôle of goats as reservoirs of Malta fever is well known. Where this disease is prevalent, boiling of goat's milk, abstinence from goat's milk, elimination or isolation of infected animals, disinfection of patients' excreta and screening have been effective preventive measures.

Since *Brucella abortus* has recently been incriminated as a cause of undulant fever, and since one of every twelve cattle in the United States is infected with the organism (Acriflavine for Undulant Fever, THE JOURNAL, February 5, p. 407) similar measures might well be adopted as a prophylaxis against infection derived from cattle.

Curative treatment, as a rule, is symptomatic. The Georgia Experiment Station of the Department of Animal Industry,

however, in the treatment of infectious abortion in cattle has been using acriflavine intravenously. It is possible that such a method could be developed for use in humans. Belyea (Brucella Abortus Infection in a Woman, THE JOURNAL, May 7, p. 1482) describes a form of treatment used successfully.

THE FOLLY OF NATUROPATHY

To the Editor:—From a naturopathic hospital in Minnesota, to which she has gone, a patient of mine writes: "When I entered the doctor's office, he looked into my eyes with an instrument, and *without hearing a word from me* he told me I had a severe ovaritis, colitis, liver disease, neuralgia and neurasthenia." The treatment she is receiving for these troubles consists of going barefoot, drinking chicory, eating raw vegetables and fruits, and using honey; no milk is used nor any cooked or baked foods; cold enemas are given, and a daily one-minute dip in the lake is taken. This treatment is carried out for patients with high blood pressure, rheumatism, neuritis, colitis, and heart, kidney, liver, stomach and gallbladder diseases, according to the testimonials sent me. Kindly omit my name.

M.D., Chicago.

ANSWER.—The naturopathic practice described is characteristic of the method of quacks in general, who, without bothering to diagnosticate the case, proceed to treat all with the same method. The naturopath, in addition to a strong dose of psychotherapy, administers alterative treatment in the shape of unusual diet and unaccustomed exposure, such as cold enemas and cold dips. If the patient should happen to improve either because of or in spite of the treatment, he tells every one about the marvelous treatment and its wonderful results. If the treatment aggravates the patient's ailment, he tells no one about his foolishness in having trusted a swindler.

EPISCLERITIS

To the Editor:—Will you be kind enough to set me right on a very refractory case of episcleritis? Where can I get something in print that will help me? This case has been running along for more than a year. The patient has had Koch's tuberculin, the sinuses have been drained, there is nothing to indicate tuberculosis anywhere, and a search has been made; in fact, it looks as if the possibilities have been exhausted. Please omit name.

M.D., Minneapolis.

ANSWER.—A true episcleritis is seldom due to tuberculosis or syphilis as contrasted to the true deeper scleritis. Most frequently a mild form of focal infection is found to be the underlying cause. Dental sepsis is a frequent factor, and it is believed that nearly 50 per cent of the cases of episcleritis are due to an apical infection of one or more teeth. A mild nonvenereal infection of the prostate has been known to cause the trouble. Some attention is devoted to episcleritis in the modern textbooks on ophthalmology, such as those by Fuchs and by de Schweinitz. A more detailed description can be found in the American Encyclopedia of Ophthalmology **6**:4494.

TREATMENT OF PUERPERAL FEVER

To the Editor:—What is the usual method employed in the United States for the treatment of puerperal infection?

H. GRAEFF, M.D., São Paulo, Brazil.

To the Editor:—I should appreciate references to those papers you consider of most interest on the present status of local and general treatment of puerperal infections.

J. LOPE ONDÉ, M.D., Zaragoza, Spain.

ANSWER.—A detailed answer to the first query may be found in textbooks on obstetrics, but the following points may be emphasized here. As is the case with nearly all disease, prophylaxis is most important. This consists essentially in strict attention to asepsis and to the proper conduct of labor. The actual treatment of puerperal infection may be divided into local and general. Local treatment is usually directed toward emptying the uterus in an effort to remove the cause of the illness. However, most obstetricians are convinced that local manipulation is not only useless but distinctly harmful. Practically the only indications for local intervention are hemorrhage and accumulations of pus. For the former condition the uterus is usually packed, and for the latter incision and drainage are employed. The general treatment consists in building up the patient's general health and resistance. The essentials are rest, fresh air, fluids, nourishment, and attention to the bowels, the bladder, and the mental state. Unfortunately there is no specific therapy. Blood transfusions often help. Surgical treatment, such as hysterectomy and ligation of the pelvic veins, is occasionally employed but the results are disappointing.

The most detailed accounts of treatment are to be found in textbooks on obstetrics, such as those of De Lee, Williams, Edgar and Polak. The following articles may also be of interest:

Polak, J. O.: Further Studies in Puerperal Infections and Their Treatment, *Am. J. Obst. & Gynec.* **10**: 521 (Oct.) 1925.
Novak, Emil: Report on Antistreptococcus Serum, THE JOURNAL, Jan. 16, 1926, p. 189.
Miller, C. J.: Conservative Treatment of Puerperal Infection, *New Orleans M. & S. J.* **78**: 565 (March) 1926; Puerperal Infection, *South. M. J.* **20**: 219 (March) 1927.
Watson, B. P.: Treatment of Puerperal Sepsis, in Tr. Edinburgh Obst. Soc., pp. 1-23, 1925-1926, *Edinburgh M. J.*, January, 1926.
Gellhorn, George: Milk Infections in Gynecology and Obstetrics, *Am. J. Obst. & Gynec.* **8**: 535 (Nov.) 1924.
Bailey, Harold: The Serum Treatment of Puerperal Sepsis, *Am. J. Obst. & Gynec.* **7**: 658 (June), **8**: 7 (July) 1924.

PUERPERAL ECLAMPSIA

To the Editor:—1. What is the most widely accepted theory on the etiopathogenesis of puerperal eclampsia? 2. What treatment has yielded best results in the United States? 3. Do intravenous injections of magnesium sulphate exert a detoxicating effect in eclampsia?

F. DE RIVAS MAZA, M.D., Caracas, Venezuela.

ANSWER.—1. Many years ago Zweifel called eclampsia "the disease of theories," and the appellation still holds good. The most plausible theory is that which considers eclampsia to be a toxemia due to some substance which, among other things, produces periportal necrosis in the liver and also causes changes in metabolism. The origin of this toxic substance is not known.

2. The tendency at present is to treat eclampsia conservatively. In the hands of most physicians this treatment yields the best results. It is certainly true that patients who are cared for at home are best treated conservatively with morphine, chloral, magnesium sulphate and venesection. In some hospitals, however, the plan of emptying the uterus as soon after the first convulsion as possible has yielded better results than conservative treatment in those hospitals. Where pregnancy or labor is to be terminated, the method of delivery chosen depends on the condition of the patient, the amount of cervical dilatation, the size and condition of the baby, and the skill of the attending physician.

3. Intravenous injection of magnesium sulphate undoubtedly helps in many cases of eclampsia. The drug decreases intracranial pressure by relieving cerebral edema, it stimulates diuresis, and it aids in the diminution of generalized edema.

PELLAGRA — YEAST

To the Editor:—1. Is brewers' yeast a cure for pellagra? 2. What vitamin does it contain? 3. Is it of value in other diseases? 4. Is it on the market and by what firm?

M.D., California.

ANSWER.—1. Among the best sources of information on this subject are the publications of Dr. Joseph Goldberger of the U. S. Public Health Service. Dr. E. L. Bishop, state health officer of Tennessee, in an article entitled "Pellagra" published in the *Journal of the Tennessee State Medical Association*, August, 1927, page 131, quotes a letter from Dr. Goldberger, who recommends an abundance of fresh vegetables; as much as possible of fresh or preserved lean flesh foods; in emergencies, in lieu of fresh vegetables and lean meat, canned tomatoes and canned salmon; and cheaper grades of flour in place of white, patent flour. He goes on to advocate the inclusion of about one-half ounce of dried yeast in the daily diet in place of part or all of the salmon. Bishop quotes Goldberger, Wheeler and Tanner's reprint 1009 from *Public Health Reports*, entitled "Yeast in the Treatment of Pellagra and Black Tongue." In this report, the authors state that they have used a commercial preparation of dried brewers' yeast, but that dried bakers' yeast may be equally good. The daily dose was "between fifteen and thirty grams (one-half to one ounce) or, roughly, two level teaspoonfuls three to six times a day." These observers have repeatedly seen beneficial effects of yeast as early as the end of the second or third day after the beginning of the treatment. For further details, it would be well to write to the Government Printing Office, Washington, D. C., for the reprint from which this information was taken.

2. Yeast is rich in vitamin B. This is the only vitamin which it contains in important quantity as far as is known at present.

3. According to New and Nonofficial Remedies, 1927, pages 409 and 410, published by the American Medical Association, yeast has been used (*a*) in the past as a bactericide in the

treatment of superficial infections, but this use of yeast has been practically abandoned; (*b*) as a source of vitamin B, for which yeast has been widely extolled; but, under usual conditions, the vitamin B requirement can be met by customary foods; (*c*) as a laxative, but only in case it does not cause intestinal distention; (*d*) in the past, as an internal remedy for furuncles and acne, but it is doubtful whether the benefit is in excess of the laxative effect; (*e*) as a stimulator of leukocytosis, but its efficacy in this respect is doubtful.

4. The yeast obtained in grocery stores is essentially "brewers' yeast." It may be obtained either in semisolid form (such as Fleischmann's yeast) or in the form rendered solid by the addition of absorbent material. The objection to Fleischmann's yeast is that unwarranted therapeutic claims have been made for it (THE JOURNAL, May 12, 1923, p. 1398). Compressed yeast (cerevisiae fermentum compressum) is in the National Formulary.

DANGERS IN USING ROENTGEN RAY

To the Editor:—Understanding that a roentgen-ray operator is exposed to certain dangers, I shall be glad for an answer to the following question: What length of time daily may a person use a vertical fluoroscope without receiving ill effects from the rays? Kindly omit name and address.

M.D., Pennsylvania.

ANSWER.—No definite calculations are possible because of the variations of protective qualities of the different fluoroscopic apparatus. Some manufacturers are derelict in this phase of the work. One should test the apparatus for leaks by using a fluorescent screen, detached from the apparatus; one may walk round the fluoroscope to see whether it fluoresces. The National Physical Laboratory, Feddington, Middlesex, London, England, has prepared a brochure in its physics department dealing with this problem. A copy may be had on request.

ROOTS OF TREES AND WELL WATER

To the Editor:—I am interested to know whether you have any data concerning the effect of the roots of poplar trees on well water. A relative is considering destroying two large Carolina poplars because his well, several hundred feet distant, shows brown fibrous roots on the stoning, and the water has a faint disagreeable odor and taste. Would it not be well to look for other sources of contamination first?

PHILIP BATCHELDER, M.D., Edgewood, R. I.

ANSWER.—It would be unlikely that roots from poplar trees would extend a distance of several hundred feet. Even if such roots were found in a well, it is also unlikely that they would give rise to disagreeable odors and tastes. An analysis of the well water is recommended, together with an examination of the premises for sources of contamination.

REMOVAL OF TELANGIECTASES

To the Editor:—Please submit treatment for a patient who has two or three superficial vessels showing through the skin surface on his nose. These vessels are tortuous and appear very red, to which the patient objects. Can they be removed? Please omit name.

M.D., Chicago.

ANSWER.—Dilated capillaries or telangiectases can be successfully removed with the electric needle. With a current of from 1 to 2 milliamperes, the platinum needle attached to the negative pole is inserted along the course of the vessel until the latter is blanched. As a rule this requires from thirty to sixty seconds. Another method of destroying the tortuous vessel is with the electrocautery, a fine pointed electrode and dull heat being used. In former years multiple punctures and scarification were also used.

TREATMENT OF SPEECH DIFFICULTY

In Queries and Minor Notes ("Treatment of Speech Difficulty," THE JOURNAL, August 6), reference was made to "Stammering and Its Treatment," by Samuel D. Robbins. In response to many requests for the name of the publishers and the price of the book, further data are given:

"Stammering and Its Treatment," by Samuel D. Robbins. Published by the Boston Stammerer's Institute, 419 Boylston Street, Boston, 1927. Price, $2.

Another recent and valuable book on the same subject is:

"Speech Disorders," by J. S. Green and E. J. Wells. Published by the Macmillan Company, 60 Fifth Avenue, New York, 1927. Price, $4.50.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Memphis, Nov. 14. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

ARKANSAS: Little Rock, Nov. 8. Sec, Eclec. Bd., Dr. C. E. Laws, Ft. Smith.

ARKANSAS: Little Rock, Nov. 8-9. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville; Sec., Eclec. Bd., Dr. C. E. Laws, Ft. Smith.

CALIFORNIA: San Francisco, Oct. 17-20. Sec., Dr. Chas. B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, Oct. 4. Sec., Dr. Philip Work, 1011 Republic Bldg., Denver.

CONNECTICUT: Hartford, Nov. 8-9. Sec. Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford. Sec., Homeopathic Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT: State Board of Healing Arts, New Haven, Oct. 8. Prerequisite to examination. Chairman, Dr. Charles M. Bakewell, Box 1895, Yale Station, New Haven.

DISTRICT OF COLUMBIA: Washington, Oct. 11. Sec., Dr. Edgar P. Copeland, 1801 Eye St., Washington, D. C.

FLORIDA: Winter Haven, Nov. 14-15. Sec., Dr. W. M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta, Oct. 11. Sec., Dr. J. W. Palmer, Ailey.

IDAHO: Boise, Oct. 11. Commissioner of Law Enforcement, Hon. Fred E. Lukens, Boise.

ILLINOIS: Chicago, Oct. 4-6. Supt. of Regis., Mr. V. C. Michels, Springfield.

IOWA: Des Moines, Oct. 4-6. Dir. of Examinations and Licenses, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KANSAS: Topeka, Oct. 11. Sec., Dr. A. S. Ross, Sabetha.

MAINE: Portland, Nov. 8-9. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MASSACHUSETTS: Boston, Nov. 8-10. Sec., Dr. Frank M. Vaughan, 144 State St., Boston.

MICHIGAN: Lansing, Oct. 11-13. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, Oct. 18-19. Sec., Dr. A. E. Comstock, 636 Lowry Bldg., St. Paul.

MISSOURI: Kansas City, Oct. 25-27. Sec., Dr. James Stewart, Jefferson City.

MONTANA: Helena, Oct. 4-6. Sec., Dr. S. A. Cooney, Power Blk., Helena.

NEVADA: Carson City, Nov. 7. Sec., Dr. Edward E. Hamer, Carson City.

NEW JERSEY: Trenton, Oct. 18-19. Sec., Dr. Chas. B. Kelley, 1101 Trenton Trust Bldg., Trenton.

NEW MEXICO: Santa Fe, Oct. 10-11. Sec., Dr. W. T. Joyner, Roswell.

RHODE ISLAND: Providence, Oct. 6-7. Sec., Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, Nov. 8. Sec., Dr. A. Earle Boozer, 505 Saluda Ave, Columbia.

WYOMING: Cheyenne, Oct. 3-5. Sec., Dr. G. M. Anderson, Cheyenne.

Vermont June Examination

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Burlington, June 22-24. The examination covered 12 subjects and included 90 questions. An average of 75 per cent was required to pass. Nineteen candidates were examined, all of whom passed. Two candidates were licensed by reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
University of Maryland School of Medicine and the College of Physicians and Surgeons	(1927)	84.7
Tufts College Medical School	(1926)	86.6
University of Vermont College of Medicine	(1917)	81.8
(1926) 89.7; (1927) 79, 80.1, 80.3, 80.6, 81.9, 84.7, 84.9, 85.9, 86.1, 86.8, 88.1, 89.6, 90.1, 91.4, 92		

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
Tufts College Medical School	(1922)	Maine
New York Homeopathic Med. Coll. and Flower Hosp.	(1910)	New York

Connecticut July Examination

Dr. Robert L. Rowley, secretary of the Connecticut Medical Examining Board, reports the written examination held at Hartford, July 12-13, 1927. The examination covered 7 subjects and included 70 questions. An average of 75 per cent was required to pass. Twenty-five candidates were examined, all of whom passed. The following colleges were represented:

PASSED				
College	Year Grad.		Year Grad.	Per Cent
Yale University School of Medicine	(1925)	82.8,	(1926)	80.4,
(1927) 77.5, 78.2, 79.6, 82.6, 86.4, 86.8				
Johns Hopkins University School of Med.	(1921)	78.8,	(1924)	89.4
Boston University School of Medicine	(1926)	80.2,	(1927)	79.8, 80.1

Tufts College Medical School....(1926)	84.3
Cornell University School of Medicine....(1925)	85.7
Jefferson Med. Coll. of Philadelphia...(1926) 79.4, (1927) 79.6,	84, 84.4
Temple University School of Medicine....(1926)	83
University of Vermont College of Medicine....(1926)	83.6
Dalhousie University Faculty of Medicine....(1921)	82.3
McGill University Faculty of Medicine....(1922)	85.9
Queen's University Faculty of Medicine...(1914) 84.1, (1915)	84.4

Dr. Rowley also reports that 16 candidates were licensed by endorsement of their credentials, July 26, 1927. The following colleges were represented:

College (ENDORSEMENT OF CREDENTIALS)	Year Grad.	Endorsement with
University of Louisville School of Medicine	(1912)	Kentucky
Johns Hopkins University Medical Department	(1924)	N. B. M. Ex.
Tufts College Medical School	(1899)	Massachusetts, (1923) New Hamp.
University of Michigan Medical School	(1923)	Michigan
St. Louis University School of Medicine	(1904)	New York
Columbia University College of Physicians and Surgeons	(1898), (1908),	(1921) New York
Cornell University Medical College	(1906),	(1916) New York
Long Island College Hospital	(1903),	(1911) New York
Medical Dept. University of the City of New York	(1893)	New York
Western Reserve University College of Medicine	(1923)	Ohio
University of Virginia School of Medicine	(1922)	Virginia

Mississippi June Examination

Dr. Felix J. Underwood, secretary of the Mississippi State Board of Health, reports a written examination held at Jackson, June 21-22, 1927. The examination covered 12 subjects and included 96 questions. An average of 75 per cent was required to pass. Twenty-one candidates, including one undergraduate, were examined, all of whom passed. Thirteen candidates were granted licenses by reciprocity. The following colleges were represented:

College (PASSED)	Year Grad.	Per Cent
Northwestern University Medical School	(1927)	85.9
Tulane University School of Medicine	(1926) (1927) 85.6, 87.4, 87.4, 87.6, 87.8, 88.6, 88.7, 89.5, 89.7	85.6
Washington University School of Medicine	(1927)	83.9
Jefferson Medical College of Philadelphia	(1912) 89.7, (1927	88.3
University of Pennsylvania School of Medicine	(1927)	88.4
University of Tennessee Coll. of Medicine	(1926) 87.9, (1927)	85.4
Univ. of Va. Dept. of Medicine	(1927) 85.7, 85.9,	87.2
Undergraduate		75.8

College (LICENSED BY RECIPROCITY)	Year Grad.	Reciprocity with
Emory University School of Medicine	(1917)	Georgia
University of Georgia Medical Department	(1913)	Georgia
Loyola University School of Medicine	(1926)	Illinois
Tulane University School of Medicine	(1925)	Louisiana
Harvard University Medical School	(1914)	Texas
Washington University School of Medicine	(1921)	Missouri
Long Island College Hospital	(1921)	New York
Ohio State University College of Medicine	(1923)	Ohio
Meharry Medical College	(1915) Missouri; (1926)	Tennessee
Memphis Hospital Medical College	(1904)	Louisiana
University of Tennessee College of Medicine	(1925)	Tennessee
University of Virginia Department of Medicine	(1926)	Virginia

District of Columbia July Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held in Washington, July 12-14, 1927. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Fifty-one candidates were examined, all of whom passed. Three candidates were licensed by reciprocity. The following colleges were represented:

College (PASSED)	Year Grad.	Per Cent
College of Medical Evangelists	(1927)	86.5
Georgetown University School of Medicine	(1927) 84.4, 86.1, 87, 89.9	83.5,
George Washington University Medical School	(1926) 90.8, (1927) 82.3, 84.4, 85.3, 85.3, 85.6, 85.7, 85.7, 86, 86.1, 86.5, 86.8, 87.5, 87.6, 87.8, 87.9, 89.1, 89.1, 89.9, 90.3, 91.5, 95.9	90.5,
Howard University School of Medicine	(1926) (1927) 75.7, 78.4, 78.6, 78.9, 82.2, 84.8, 85.1, 85.3, 85.9, 86.2, 86.9, 90, 90.4	80.6,
College of Physicians and Surgeons, Baltimore	(1910)	86.3
Johns Hopkins University Medical Department	(1918)	88.3
University of Michigan Medical School	(1903) 79, (1926)	82
Jefferson Medical College of Philadelphia	(1927)	90.2
Medical College of the State of South Carolina	(1924)	88.1
Medical College of Virginia	(1926)	86.6

College (LICENSED BY RECIPROCITY)	Year Grad.	Reciprocity with
Johns Hopkins University Medical Department	(1924)	Maryland
Columbia University College of Phys. and Surgs.	(1884)	New York
Long Island College Hospital	(1895)	New York

Book Notices

THE INFLAMMATORY AND TOXIC DISEASES OF BONE: A Text-Book for Senior Students. By R. Lawford Knaggs, M.C., F.R.C.S., Consulting Surgeon to the Leeds General Infirmary. Cloth. Price, $5.50. Pp. 416, with 197 illustrations. New York: William Wood & Company, 1926.

As this is a textbook for senior students, the matter is presented concisely. The author realizes that it is not easy to draw the line between the inflammatory and the toxic diseases. In both, toxins and inflammatory changes are associated; but a distinction may be made between toxins produced locally by micro-organisms and circulating toxins derived from a distant source, not necessarily of micro-organic origin. The author has included a discussion of osteogenesis imperfecta, which formed the subject of a Hunterian lecture and is therefore included in this book although he realizes it is neither an inflammatory nor a toxic disease, but a disorder of growth. Two other subjects—osteitis fibrosa and osteitis deformans—were dealt with in Hunterian lectures, and all three were published in the *British Journal of Surgery*, as well as the chapters on spondylitis deformans and leontiasis ossea. The subject matter is presented from the clinical point of view, with free use of classic cases. The author has tried to account for many apearances which, as a rule, are only described, and he realizes that his explanations may in some cases be more plausible than correct. He believes that a suggestive theory is more helpful to the student than none at all, even though it should eventually prove to be incorrect. The book is divided into twenty chapters, covering acute osteomyelitis, subacute osteomyelitis, serous periostitis and osteomyelitis, tuberculous disease of the bone, syphilitic disease of the bone, Charcot's joints (tabetic), syringomyelia, yaws, arthritis deformans (three chapters), pulmonary ostearthropathy and allied conditions, rickets, late rickets, infantile scurvy, osteitis fibrosa, osteomalacia, osteitis deformans, leontiasis ossea, and osteogenesis imperfecta. It is well written. The text is supplemented by clear diagrammatic line-drawings and photographs of interesting and instructive specimens, as well as roentgenograms and photomicrographs. While the book has value as collateral reading, it is defective as a textbook for students because the matter is incompletely handled. As an example of this, in the chapter on acute osteomyelitis no mention is made, in the portion dealing with etiology, of boils or abscesses, or of disease of the tonsils, another common cause, nor is trauma referred to. Similarly in discussing tuberculous disease of the vault of the skull, the author does not refer to the frequency of the condition or to the locations of predilection.

PRINCIPLES AND PRACTICE OF CHEMOTHERAPY: With Special Reference to the Specific and General Treatment of Syphilis. By John A. Kolmer, M.D., Dr.P.H., D.Sc. (Hon.), Professor of Pathology and Bacteriology in the Graduate School of Medicine of the University of Pennsylvania. Cloth. Price, $12 net. Pp. 1106, with illustrations. Philadelphia: W. B. Saunders Company, 1926.

The comparatively new field of chemotherapy is rapidly growing and likewise becoming of increasingly practical importance, yet not until the appearance of this book did there exist among our scientific publications such a comprehensive survey of this complex subject. The literature and various studies on the subject have been correlated and presented in a concise, methodical manner; the results are reviewed, analyzed and interpreted by an experienced worker intimately concerned with development of the subject. The book is divided into ten parts: Part I contains an historical introduction and considers in detail the methods for determining the toxicity of chemical agents in relation to their chemotherapeutic use. Part II is a comprehensive consideration of the chemotherapy of bacterial and mycotic diseases in man and the lower animals. Part III deals with the chemotherapy of trypanosomal diseases. Part IV includes the chemotherapy of spirochetal diseases, excluding syphilis. Part V comprises the chemotherapy of protozoan and metazoan diseases other than spirochetal and trypanosomal diseases. Part VI is a concise discussion of the chemotherapy

of diseases of doubtful or unknown etiology. Part VII and the remainder of the volume are devoted to syphilis, and embraces about 600 pages dealing with the mechanism of infection, immunity and pathology in relation to treatment; pharmacology and toxicology of antisyphilitic medicaments; their method of administration; prophylaxis; and general, specific and nonspecific treatment of syphilis. It is a work of one who has had extensive experience in syphilology, who possesses good medical judgment. The methods used by Kolmer for the treatment of syphilis are given in detail, the need for the individualization of treatment is repeatedly emphasized, and particularly all the available information on the subject is presented and discussed. The book is written in a clear, concise style and there is a personal note throughout. The illustrations are adequate and well chosen. At the end of each chapter is a list of references. The book should prove valuable for reference to the research worker, as well as to the practicing physician; it is especially valuable to the laboratory worker. Here is a worthy companion to the author's previous volume on "Infection, Immunity and Biologic Therapy."

DIE SCHÄDIGUNGEN DER HAUT DURCH BERUF UND GEWERBLICHE ARBEIT. Herausgegeben von Obermedizinalrat Dr. Karl Ullmann, Privatdozent an der Universität, Dr. Moriz Oppenheim, Primararzt und Professor an der Universität in Wien, und Professor Dr. J. H. Rille, Direktor der Universitätsklinik für Hautkrankheiten in Leipzig. Band II, Lieferung 9-12 (Schluss) und Band III, Lieferung 3-6 (Schluss). Paper. Price, 20 marks, and 24 marks. Pp. 385-567 and 97-308, with illustrations. Leipsic: Leopold Voss, 1926.

This volume maintains the high standard set by volume 1, which was reviewed in these pages. As in all works of collaboration, the various chapters are uneven; some are short to the point of being inadequate, whereas others are possibly longer than the subject matter warrants. There is also the overlapping which seems inevitable in such works.

The first chapter in parts 1 to 4 is an excellent introduction to and general consideration of the question of occupational dermatitis by Moriz Oppenheim. Appended is an exhaustive bibliography of fourteen pages, in which there are a number of American references, surprisingly large for a German work. Following are chapters on the effect of soap, water, the alkalis, the strong acids, the lacquers and the metals. There are reproductions of many excellent photographs together with four pages of colored plates of moulage preparations inserted for those who care for them.

In parts 5 to 8 there is an exhaustive chapter and bibliography by Ullmann on the petroleum and paraffin dermatoses of the coal tar industry. Here also are reproductions of photographs of patients and numerous drawings of histologic preparations. This is valuable for reference. Following this chapter are short articles on the effect of coal dust and on artificial tattooing. Another lengthy and well documented chapter is that of Koelsch on the coal tar derivatives. There are short articles on the occupational dermatoses incident to photography and to the workers in paints, lacquers and varnishes.

Parts 9 to 12 begin with a chapter by Wirth on the many diseases of animals which are transmitted to man. There are good chapters on malleus, anthrax and the mycoses. Included in this volume are lengthy articles on various forms of dermatitis venenata due to toxic plants and animal substances. Broers gives a long list of the toxic plants with a paragraph about each one. Ullmann has a short article illustrated by good photographs of the toxic animal parasites.

The third volume opens with a discussion by Finger of syphilis as an accidental and occupational extragenital infection. Ullmann follows Finger with an article on venereal, syphilitic and other infections acquired by physicians, midwives and nurses in pursuit of their callings. Piskacek and Schosserer discuss various septic infections in the same group of persons. Heller has well covered the field of nail changes, giving in detail the causative agents and the results produced. Thiele takes up the subject of prophylaxis of occupational dermatoses and Brezina continues the subject with a digest of the regulations and laws in various countries for the protection of workers in various industries. Kelsch devotes fifty-four pages to a discussion and bibliography of the industrial diseases of the mucous membrane and of the teeth, and Hessberg has allotted almost as many pages to the diseases of the eye. Ullmann brings the work to a close with an authoritative chapter on the occupational neoplasms.

A MANUAL OF GYNECOLOGY. By John Osborn Polak, M.Sc., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Long Island College Hospital. Third edition. Cloth. Price, $5. Pp. 402, with 157 illustrations. Philadelphia: Lea & Febiger, 1927.

This edition shows evidence of thorough revision, which has brought the volume down to date. It is a most useful reference work in more or less outline form, emprasizing diagnosis more than treatment, with the important facts presented in italics. The illustrations, including twelve colored plates, are especially well selected and add greatly to the text.

The chapter on sterility is concise and clear, chiefly reflecting the views of Hühner as adopted by the author.

In discussing the physiology of the genital organs, Polak refers to adolescence as that period between infancy and puberty. This is not in accord with the usual acceptance of the term. From puberty to maturity is more commonly spoken of as adolescence, the period of youth. Under diagnostic methods Polak mentions pneumoperitoneum, by which "the outline and location of intra-abdominal tumors may be determined by fluoroscopy." Roentgenograms after pneumoperitoneum are far more satisfactory for diagnosis, and the scope of usefulness extends far beyond abdominal tumors in gynecology. The author's natural humor exhibits itself when he says "Palpation of the rectum can be readily made by the vaginal fingers." Quelques?

PULMONARY TUBERCULOSIS. By G. T. Hebert, M.A., M.D., M.R.C.P., Physician in Charge of the Tuberculosis Department, St. Thomas's Hospital. Cloth. Price, $3. Pp. 212. New York: Longmans, Green & Company, 1927.

This book is a condensed manual of pathology, diagnosis and treatment of pulmonary tuberculosis, well adapted to the needs of the student, for whose benefit it was written. Despite its terseness, it is more than a compend. The author is evidently a close clinical observer, for he writes in a convincing style, marshaling his facts in good order. The reader may take exceptions to the chapter on pneumothorax, some statements in which might lead one to question the wideness of the author's experience with this means of treatment. Another might justly find fault with the paragraph on d'Espine's sign, which is certainly not in accordance with d'Espine's original description of the phenomenon. However, criticism is easy and no book is perfect. On the whole, the author is to be complimented on the clear and unequivocal character of his subject matter.

DIE LEITUNGSBAHNEN DES SCHMERZGEFÜHLS UND DIE CHIRURGISCHE BEHANDLUNG DER SCHMERZZUSTÄNDE. Von Professor Dr. O. Foerster. Sonderbände zu Bruns' Beiträgen zur klinischen Chirurgie. Paper. Price, 19.50 marks. Pp. 360, with 104 illustrations. Berlin: Urban & Schwarzenberg, 1927.

This monograph dealing with the conduction paths of pain and the surgical treatment of painful conditions is published as a special supplement to Bruns' *Beiträgen zur klinischen Chirurgie*.

Probably no other living authority today is better qualified to write on this subject, and the volume must be looked on as an important contribution to the recent surgical literature. This work has been developed from the author's report before the meeting of the Southeast German Surgical Congress in the summer of 1925.

The knowledge of conduction paths for pain is not only of interest to the neurologist, but is of great practical importance to the surgeon as well, in the production of regional anesthesia as well as for the permanent relief of pain in those conditions in which the source of the pain itself cannot be combated. There are in surgery numerous operations for the palliative relief of pain. These operations have been developed on the formerly accepted teaching concerning conduction paths for pain, but experience has accumulated, showing the failure of many operations based on these assumptions and that the conceptions, held until very recently, have been inexact and insufficient. For this reason the neurologists

have learned from the surgeons and there has been a great increase in knowledge and this has demanded that several teachings, which up to date have been accepted as dogmatically correct, must be basically modified. The question is of immediate and great practical interest and much still remains to be learned.

The work is divided into two parts. Part I deals with the perception of pain in the various portions of the body; receptors for pain; pain conduction in the peripheral nerves; radicular conduction of pain; pain conduction in the posterior horn; pain conduction in the medulla, the brain-stem, the optic thalamus and the cerebral cortex; and the surgical treatment of painful conditions.

Part II takes up in order affections of the peripheral nerves; diseases of the spinal ganglions; diseases of the nerve roots; diseases of the spinal cord; diseases of the brain-stem; diseases of the cerebrum, and an exhaustive discussion of pain in the head.

The book ends with a reprint of the discussion on the author's report when it was read before the surgical congress in June, 1925.

Unfortunately the work has not been indexed and one has to depend on the table of contents to orient himself on the most important contents of this masterly thesis.

The scope of the work is such that it is impossible to give a comprehensive digest in the limited space of a review.

The work should be carefully studied by all neurologists and general surgeons.

ALCOHOL AND LONGEVITY. By Raymond Pearl, Institute for Biological Research, the Johns Hopkins University. Cloth. Price, $3.50. Pp. 273. New York: Alfred A. Knopf, 1926.

The renowned biometrician of the Institute for Biologic Research of the Johns Hopkins University presents in this volume a well written and somewhat caustic difference of opinion with those who are inclined to base their judgment regarding alcohol more on prejudice than on the available evidence. Dr. Pearl has studied the effects of alcohol on the lower species and has analyzed the available insurance records regarding man, as well as the evidence obtained by a study of an average population in Baltimore. He has, moreover, surveyed the entire available literature on the subject, as a result of which he comes to some simple conclusions:

1. The moderate drinking of alcoholic beverages did not shorten the lives of persons in a varying large working class population of Baltimore.
2. Heavy drinkers of alcoholic beverages exhibit considerably increased rates of mortality and diminished longevity.
3. If all drinkers are pooled together and compared with abstainers, the drinkers have higher rates of mortality and lower life expectancy than abstainers.
4. The taking of alcohol has a beneficial effect on the race through its selective action on germ cells, killing off the weak and defective, and leaving the strong and sound to survive.

Undoubtedly, Dr. Pearl has prejudices of his own in relation to liquor, slyly suggested perhaps in the dedication of this volume to his "friends of the Saturday Night Club." On the other hand, his evidence will bear the most careful analysis.

SHOULD WE BE VACCINATED? A survey of the Controversy in Its Historical and Scientific Aspects. By Bernhard J. Stern, Instructor of Sociology, Columbia University. Cloth. Price, $1.50. Pp. 146. New York: Harper & Brothers, 1927.

Mr. Stern, an instructor of sociology in Columbia University, has carefully analyzed the reasons for opposing vaccination offered by the peculiarly stubborn and unreasoning group that constitutes the antivaccinationists in any community. The result is as every unbiased investigation must be—a complete support of the value of vaccination in the control of smallpox. Out of the consideration come two factors of great importance: "The vast gap between the knowledge of medical men and the general public on such a question as vaccination, the tremendous lack of comprehension even of the most elementary facts of immunity and disease, from the beginning made the public an easy prey to the misinformation propounded by antivaccinationists whose economic interests were involved. . . . Unfortunate personal experiences with vaccination, or one or two examples of harmful vaccination that came within the range of any individual's experience, are often projected so as to outweigh all known evidence as to the rarity of such misfortunes." Mr. Stern's book will convince any reasonable reader of the scientific evidence available in support of vaccination against smallpox, but who ever heard of a reasonable antivaccinationist?

THE QUEEN CHARLOTTE'S PRACTICE OF OBSTETRICS. By J. Bright Banister, M.D., F.R.C.S., Obstetric Physician, Charing Cross Hospital; Aleck W. Bourne, M.B., F.R.C.S., Obstetric Surgeon to Outpatients, St. Mary's Hospital, Trevor; B. Davies, M.D., F.R.C.S., Gynaecological Surgeon, Hospital for Women, Soho; L. Carnac Rivett, M.C., F.R.C.S., Surgeon, Chelsea Hospital for Women, L. G. Phillips, M.S., F.R.C.S., Assistant Surgeon, Hospital for Women, Soho, and C. S. Lane-Roberts, M.S., F.R.C.S., Obstetric Surgeon, Royal Northern Hospital. Cloth. Price, 18s. Pp. 629, with 274 illustrations. London: J. & A. Churchill, 1927.

This book, which was written by the six members of the staff of Queen Charlotte's Hospital, gives the views held and the methods adopted at that hospital. It is unique that these individuals, each of whom is on the staff of at least one other hospital, should agree so closely in all the problems of obstetrics. For both spontaneous labors and forceps deliveries the lateral position is used. Episiotomy is practiced occasionally. In breech presentations where the legs are extended the authors advise bringing down one or both legs early in labor and then leaving the delivery to nature. They do not see any advantage in ever applying forceps to the aftercoming head, even though this procedure has undoubtedly saved many babies. Conservatism is employed in the treatment of eclampsia, but the statistics of the hospital are not given. Among 308 cases of placenta praevia, there were fifty-four cesarean sections. The mortality of 5.5 per cent for these cesarean sections was lower than the mortality for spontaneous delivery, bag or version. The only method that yielded better results in the treatment of placenta praevia was rupture of the membranes and vaginal plugging, but cases so treated were undoubtedly mild. An excellent analysis of the causes of puerperal fever is given. Any case in which a temperature of 100 F. develops is considered morbid whenever such a temperature occurs and whatever its duration. Based on this strict definition, the morbidity for the years 1908-1917 was 17.6 per cent; but in more than half the cases the elevation persisted for only one day. In the list of causes of fever, the terms gastro-intestinal, mammary, reactionary and emotional are given as accounting for about 45 per cent of the cases (for 1917), but one wonders whether an infection of some sort was not the cause of most of these elevations of temperature. The classic cesarean section is used almost exclusively, and among 565 of these operations the maternal mortality was 5.8 per cent. It is hard to explain why a group of obstetric specialists should be slow to take up the transperitoneal, cervical cesarean section; for among the many advantages of this operation is its low mortality. The authors use interrupted nonabsorbable suture material in performing cesarean sections. Chloroform is the anesthetic of choice in most cases even to induce anesthesia for cesarean section, but ether is substituted after the uterus is opened. Scopolamine-morphine anesthesia is looked on with favor. The book is well written in a rather uniform style, and the type is clear. The illustrations are instructive, but a few at least were borrowed from a popular American textbook with no mention of this anywhere. The book is no better or worse than the majority of textbooks on obstetrics.

MOTHER INDIA. By Katherine Mayo. Cloth. Price, $3.75. Pp. 440, with 41 illustrations. New York: Harcourt, Brace & Company, 1927.

To most of us India is merely a country of mystery. We have heard vaguely of its starving hundreds of thousands, of its infant mortality rate and of its superstition, mysticism and priest-ridden caste system. When the bare facts are placed before us, as in the present volume by Katherine Mayo, we are aghast. Here is a country with three hundred million people in which the women have a status less than that of the cattle, in which little girls are sacrificed to the bestial lust that the religion grants to men, in which a primitive obstetrics seems designed to kill by infection women and children rather than to save them in any way from the perils of childbirth or from its pain. The leader, Gandhi, appears as a combination of religious enthusiast, political leader and

prophet. Think of a country in which 40 per cent of the children born die in the first month of life; 60 per cent in the first two months! Consider the health of people who believe that the drinking of the sewage that pours into the Ganges is a holy act. The book by Katherine Mayo is startling in its revelations and written with a flair for that which is of interest that makes it exceedingly readable. Every physician will find it full of valuable material.

THE HEALTH OF THE CHILD OF SCHOOL AGE. By Various Authors. With a foreword by Sir Thomas Oliver, M.A., M.D., F.R.C.P., Professor of Medicine, University of Durham and College of Medicine, Newcastle-upon-Tyne. Cloth. Price, $1.80. Pp. 204, New York: Oxford University Press, 1927.

In this volume is collected a series of lectures presented in the Institute for Hygiene. There seems to have been a request for their preservation in permanent form. To this series ten British medical authorities contributed separate essays concerning the more common problems affecting the young. The points of view are safe, but the presentation is such as will appeal to a distinctly erudite reader rather than to the person of newspaper intelligence, the group most in need of the type of education offered.

LEHRBUCH DER ENZYME: Chemie, physikalische Chemie und Biologie. Von Prof. Carl Oppenheimer, Dr. Phil, et Med. in Berlin. Paper. Price, 33 marks. Pp. 660, with 18 illustrations. Leipsic: Georg Thieme, 1927.

With the exception of the section covering the physical chemistry and kinetics of enzyme action, this is written by Carl Oppenheimer. The book is an excellent compilation and survey of much of the recent work on enzymes. An introductory chapter involving the historical phases of the subject, together with a rather unsuccessful attempt at a "natural system" of enzyme nomenclature and classification, is followed by a chapter on the descriptive chemistry of enzymes. The third division covers a general treatment of various chemical and physical factors affecting enzyme action. The next division, written primarily by Richard Kuhn, takes up the physiochemical point of view and tends to give the impression that thus far no definite and true specificity of enzyme action has been proved. This must be granted for some of the claimed specificities but certainly is not to be applied to all cases. Next the distribution, formation, secretion and fate of the enzymes are treated in the usual brief manner necessitated by our gross ignorance. The functions of the enzymes are taken up in more detail, and although carbohydrate oxidation in tissues is treated at some length, the discussion on the oxidative destruction of fatty acids is very brief and misleading in that no mention is made of the Knoop B oxidation theory, and, instead, the impression is given that fatty acids are oxidized in metabolism by the intermediary formation of carbohydrates. The remainder of the volume is devoted to the specific treatment of the various types of hydrolyzing and oxidative enzymes. The treatment of those acting on carbohydrates is very complete and is well correlated with the recent knowledge on the structure of the disaccharides and polysaccharides. The treatment of the proteases is not so complete. The enzymic factors involved in carbohydrate metabolism are treated very fully indeed, together with the effects and function of insulin. Here also the beta oxidation of fatty acids is not referred to. Zymase action is covered in considerable detail. The general plan of the book necessarily leads to considerable repetition and to some confusion in that different points of view are given, depending on the mode of treatment and the phase involved. The nomenclature chosen is by no means consistent in itself or in keeping with the present usage.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Professor in the University of Basle. Translated from the sixth German edition by F. S. Arnold, B.A., M.B., B.Ch. Third edition. Cloth. Price, $6. Pp. 204, with 102 illustrations. St. Louis: C. V. Mosby Company, 1927.

This is an English translation of the sixth German edition. There have been many short textbooks written for the student of neurology, but Bing's compendium still remains the best of its kind. There is little change from the fifth edition except for the addition of new illustrations. The superiority of the book lies in the great stress that is placed on the topographic anatomy of the nervous system in its relation to clinical symptoms, thereby giving the student a basic and understandable reason for the presence of otherwise confusing neurologic symptoms. A brief but pithy description of most of the syndromes of the nervous system is given. The illustrations are excellent, not being equaled by many of the larger works. This compendium is heartily recommended for the use of medical students, practitioners and the advanced student of neurology.

THE NORMAL CHEST OF THE ADULT AND THE CHILD, INCLUDING APPLIED ANATOMY, APPLIED PHYSIOLOGY, X-RAY AND PHYSICAL FINDINGS. By J. A. Myers, Associate Professor of Preventive Medicine, Medical and Graduate Schools, University of Minnesota, and Others. With an introduction by Elias P. Lyon. Cloth. Price, $5. Pp. 419, with 141 illustrations. Baltimore: Williams & Wilkins Company, 1927.

This book is written to stress the fact that before the study of diseases of the chest is undertaken, one should know the normal chest. Also, that rightly to know the normal chest there must be an intimate knowledge of the anatomy, physiology and physics involved. In a sense, the book is a protest against the not uncommon custom of teaching physical diagnosis largely by the early introduction of patients with diseased hearts and lungs; also against the other custom of teaching the subject in a manner too empiric without an adequate understanding of the facts of physics, anatomy and physiology that underlie the physical phenomena of health. There can be little quarrel with the authors as to the essential correctness of their thesis. Only by a knowledge of the normal can the undergraduate or practitioner realize and interpret what is abnormal. One may question, however, whether from a pedagogic and practical point of view Dr. Meyers and his colleagues have not gone too far in shunning a consideration of the chest in disease. In fact, Dr. Stewart, in the chapter on the normal chest in childhood, admits that he cannot well discuss this topic without some reference to disease. So, with an apology, he mentions certain abnormalities, such as those due to rickets and enlarged glands. He need not apologize. It does not seem a crime to mention or even describe a disease condition such as pneumonia, pleural effusion or aneurysm even when desiring to concentrate on the normal. In teaching physical diagnosis the occasional introduction of the abnormal arouses and keeps up the interest of the student more than the daily listening and relistening to the monotonous normal. Moreover, one of the best ways to teach the normal is to show a deviation from it. A student may listen repeatedly to an aortic closure sound and be told that it is the sound of health. Let him once hear a sharply accentuated sound or one accompanied by a diastolic murmur; the contrast serves more definitely to fix in his mind the normal standard. The danger from so doing is plain. Our authors have it in mind. It is that the student and instructor may easily be enticed away from the normal, may consider not alone the physical signs of the disease but the disease itself. The course may thus be perverted into a demonstration and lecture course in internal medicine. But a book review is not the proper place to discuss methods of teaching. Nor should one argue at length against the motives that prompted the writing of the volume. We feel that our authors are too rigidly adherent to their conception of the proper method of teaching. Their plan should admit of more freedom and flexibility.

We are at a loss to know what to say as to their success in carrying out their plan. Much of the book is excellent. Yet if it is written for the first year student he will not get very clear and definite ideas of anatomy and physiology from what is here presented. If the book is intended for the second or third year student he will have repeated to him in an elementary way many things he should by this time know and know well. Take what Dr. White writes about the heart, in one of the best chapters in the book. If the student does not know his anatomy he will get merely a confused notion of it from Dr. White's description of the muscles, valves and vessels unless he has by him a dissected heart, together with diagrams, models and plates for reference. Should he not know this before he takes up the special subject of the normal chest? Should it be necessary to describe to him the valves and their functions? Should he not have learned this in the laboratories of anatomy and physiology? And the same may

be said regarding the normal lungs. To repeat, if he does not know his anatomy and physiology before he comes to this study, he will not learn it here. If he knows it he should not be required to reread it in the abbreviated forms here presented. Some chapters are better than others. The one by Dr. White already referred to is thoughtfully and carefully written. His discussion of "the unimportant murmur" is excellent. The electrocardiogram is briefly considered, but what little there is is clear and to the point. The chapter on the innervation of the chest by Rasmussen is scholarly and comprehensive. The one on the chest of the child impresses one as only fairly good. The chapter on the importance of systematic examinations is full of commonplaces and might well be omitted. The work is made up of the good, bad and indifferent. Trial in the classroom, with revision, may make it more useful than it seems destined to be, at least in its present form. Its success as a textbook will depend largely on the wisdom, tact and skill of the individual instructor. Perhaps this is true of every book, and especially of one that goes at an old subject in a new way as does this one, which is its real merit and for which it deserves praise.

There are many typographic errors. Some of these are clearly the fault of the writer. But they are largely due to careless or inefficient proofreading and are inexcusable. There are places, too, where rewriting would make for clarity and a more pleasing style.

L'Hérédité musicale. Par Docteur Louis Vezoux, de la Faculté de médecine de Paris. Paper. Pp. 279. Paris: E. le François, 1926.

This book, after a brief prelude on heredity, proceeds to a series of summaries on the nature of memory, intelligence, reason, will and conscience. The theme then passes to the "laws of heredity," discussing and quoting many writers, including Galton, Weisman, Lamarck, DeVries, Mendel, Ribot and Fabre. The author agrees with Spencer that acquired musical characteristics can be transmitted. The second chapter begins with a eulogy of music and discusses various topics, such as formalism, intellectual pleasure, passion, musical therapeutics, the musical ear and cerebral localization. Chapter III contains the experimental material; namely, an abridged account of the investigations of Seashore and Davenport. The author agrees with their conclusions that "fundamental musical qualities" are inheritable. Apart from the discussions, the author's contribution evidently consists in presenting brief accounts of the family trees of famous musicians, as well as of a few painters, poets and other types of celebrities, which are offered in proof that musical ability is inheritable. His opinion is that not only the "fundamental musical qualities" of Seashore and Davenport are inheritable, but also that essential to the musician, the artistic temperament. This he calls "the emotional or cyclothymic constitution." The volume is embellished with excellent drawings of famous musicians. Material is derived from the author's readings and meditations as well as from conversations he has had with musical celebrities in Paris salons and elsewhere. It is written with a depth of feeling which contrasts markedly with the scientific calm, care and accuracy of reviews such as Detlefsen's "The Inheritance of Acquired Characters." It is more likely to appeal to the musician than to the scientist.

Ability, A Psychological Study. By Victoria Hazlitt, M.A., Lecturer in Psychology, Bedford College, University of London. Cloth. Price, $1.80. Pp. 147, with 9 illustrations. New York: Macmillan Company, 1926.

This volume is the result of investigations by the department of psychology of Bedford College of the University of London as to the factors that make for special ability. The first part of the book is devoted to a consideration of such factors, and the second to a series of tests for university students leading to a determination of their capacity. The tests are simple copying tests, mazes, corrections of English writing, and all the usual psychologic paraphernalia. Like many other psychologic tests, the determination in the long run, while useful, does not guarantee success. After all, the secret of ability and capacity is yet to be determined. Apparently far more factors enter into the matter than can possibly be determined by any mental study. Nevertheless, the progress of this science is rapid, and its review interesting.

Medicolegal

Smallpox Following Eating of Ice Cream in Hospital

(Vilter Mfg. Co. et al. v. Jahncke et al. (Wis.), 212 N. W. R. 641)

The Supreme Court of Wisconsin, in affirming a judgment which affirmed an award of the industrial commission of compensation made in favor of the widow of an employee who died from smallpox, says that he was employed by a manufacturing company as an erecting engineer. He went to an isolation hospital where there were smallpox patients, to perform some service relative to a refrigerator plant. While he was working in the refrigerator room, a janitor came in and made some ice cream a few feet away. He was given some ice cream from a spoon by the janitor. The helper also had some, and all ate from the same spoon, but its bowl was washed in hot water between the eatings. The janitor had worked for some time cleaning up the wards, and had then taken care of the laundry. Nine days later the erecting engineer was taken ill with smallpox. The testimony of at least two physicians on behalf of the claimant was to the effect that, while it could not be stated as a certainty that her husband contracted smallpox at the isolation hospital, it was very probable that he did—much more probable than that it was contracted elsewhere. This court was not called on to weigh the probabilities for or against the finding of the commission, but only to ascertain whether or not there was competent testimony to sustain it. These facts were established: (*a*) The employee died from smallpox; (*b*) he was exposed to it somewhere; (*c*) the inferences preponderated that the hospital was the place of exposure; (*d*) the preponderance of inferences was so great that the commission could say that it amounted to a reasonable certainty. This court therefore reaches the conclusion that there was sufficient evidence on which to base the finding of the commission. The contention that the eating of the ice cream was outside the scope of his employment was not well taken. This court regards the eating of ice cream the same as taking a drink of water or other refreshment customarily done by employees everywhere, and not forbidden by the employer.

Sickness Not Accidental Means Effecting Bodily Injury

(International Travelers' Ass'n v. Ross (Texas), 292 S. W. R. 193)

The Commission of Appeals of Texas, section A, says that this action was brought by Mrs. Ross as beneficiary of an accident insurance policy issued on the life of her husband. The policy provided for indemnity "against loss resulting from bodily injuries, effected directly, independently and exclusive of all other causes through accidental means." It was alleged that one night, while the insured was sleeping, his food, in the process of digestion, excited a headache and he was awakened. He arose and went to the bathroom to take an aspirin tablet, but immediately became nauseated and in severely straining in vomiting ruptured a blood vessel, causing hemorrhage of the brain, and died several hours later. The defendant demurred to the petition on the ground that the death of the insured was not due to bodily injuries effected through accidental means. The trial court sustained the demurrer and dismissed the action. That judgment was reversed by the court of civil appeals, which, in accordance with the recommendation of the commission of appeals is now reversed, and the judgment of the trial court affirmed.

That the sickness or stomach disorder suffered by the insured was the direct cause of the rupture of the blood vessel, the commission of appeals thinks plainly appeared from the allegations of fact in the petition. The insured suffered an attack of nausea. The nausea, and its natural consequence of straining in vomiting, resulted directly in the rupture of the blood vessel, without the intervention of any other cause or agency. It was of no importance that the rupture of the blood vessel was unexpected or was an unusual result of nausea and the consequent straining in vomiting. Vomiting and straining are the natural and usual accompaniments of nausea, and are as much a part of the sickness resulting from the derangement of the stomach as is the dis-

tressed feeling produced in the stomach itself. There can be no escape from the conclusion that the rupture was the direct and proximate result of the sickness or physical disorder suffered by the insured, and that no other independent cause or agency intervened to produce the injury, or even to contribute to the injury. The case as presented by the petition was to be distinguished from those cases in which sickness merely furnishes the condition in which an independent cause operates to produce the injury.

Sickness, of itself, does not comprehend the element of accident, according to popular conception. It is a physical condition which, in the ordinary course of events, every human being must be expected to undergo at some time and in some degree. The history of human existence proves this to be so. A particular attack may be unexpected or unforeseen, both in occurrence and in result, but this fact does not render the sickness accidental. Therefore sickness can never be regarded as the "accidental means" of effecting a bodily injury, or of itself being accidental, unless the sickness is proximately caused by a bodily injury accidentally sustained. In view of these considerations, it may be stated, as a rule of law governing accident insurance, that bodily injuries of which sickness is the sole efficient cause do not come within the scope of such a provision of an accident insurance policy as that here under consideration.

Registration and Recovery for Services in Georgia

(Fricdman v. Mizell (Ga.), 137 S. E. R. 400)

The Supreme Court of Georgia says that the court of appeals requested instruction from the supreme court on the following question: Where a physician of this state (Georgia) began the practice of medicine subsequently to the passage of the act of the general assembly approved, Dec. 12, 1894, and where he has complied with all the requirements of that act (one of the requirements being that a physician shall have his license recorded in the office of the clerk of the superior court of the county of the physician's residence), but where he has failed to register his name, residence, etc., in the office of the clerk of the superior court of the county wherein he resides and is practicing medicine, as required by the act of the general assembly passed in 1881 and now embodied in sections 1684 et seq. of the civil code of 1910, is such physician entitled to recover for professional services rendered by him? In other words, in such a case has the above-cited provision of the act of 1881 been repealed or superseded by the provisions of the above-cited act of 1894?

According to the syllabus by the supreme court, by the act of Aug. 18, 1913, the legislature sought to repeal expressly the act of 1894. If for constitutional reasons this attempted express repeal was abortive, then the act of 1894 was repealed by implication by the act of 1913, and after Aug. 18, 1913, physicians licensed under the acts of 1894 and 1913 were not required to register in accordance with such provisions of the act of 1881; and a physician licensed under the act of 1894, who had caused his certificate to be recorded as required by that act, could recover for services rendered after Aug. 18, 1913, although the record of his certificate had been made prior to the date last named.

Civil Liability of an Insane Person for His Torts

(Seals v. Snow (Kan.), 254 Pac. R. 348)

The Supreme Court of Kansas, in affirming a judgment for $10,000 damages in favor of the plaintiff for the death of her husband who was shot and killed by the defendant, holds that an insane person who shoots and kills another is civilly liable in damages to those injured by his tort or wrongful act. The court says that the defendant challenged the doctrine generally sustained by the courts that an insane person is liable to make compensation for his torts. It was conceded that the great weight of authority is that an insane person is civilly liable for his torts. This liability has been based on a number of grounds; one, that where one of two innocent persons must suffer a loss, it should be borne by the one who occasioned it. Another, that public policy requires the enforcement of such liability in order that relatives of the insane person shall be led to restrain him and that tortfeasors (wrongdoers) shall not simulate or pretend insanity to defend their wrongful acts causing damage to others, and that if he were not liable there would be no redress for injuries, and we might have the anomaly of an insane person having abundant wealth depriving another person of his rights without compensation. The authorities upholding the doctrine are well-nigh unanimous and so firmly established by the courts that this court sees no good reason to depart from or vary the rule. The jury in this case made special findings that the defendant, when he shot the plaintiff's husband, was insane and not able to distinguish right and wrong; but the trial court instructed the jury that if the defendant at the time of the shooting was insane or mentally deficient, that of itself would not constitute a defense, to which it was added that a man who is insane or incapable of correctly judging between right and wrong has the same full right to act in self-defense as a normal person.

Standard of Liability for Hospitals—For Physicians

(Hayhurst v. Boyd Hospital (Idaho), 254 Pac. R. 528)

The Supreme Court of Idaho, in affirming a judgment for $15,250 damages in favor of the plaintiff, says that he alleged that, after he had received treatment for about three weeks for typhoid, the nurse employed by the defendant in his care placed him in a chair for the first time, raised the window of his room, and negligently left him for about two hours without sufficient covering, as a result of which he contracted pneumonia, which necessitated a surgical operation on his pleural cavity, the wound from which had never healed, while as a further result of the negligent acts of the defendant he had contracted tuberculosis, from which he was still suffering.

The defendant complained of the overruling of its general demurrer, on the ground that the proper standard of liability was not alleged, contending that the duty of a hospital is not merely the duty to give its patient "such reasonable care and attention for his safety as his known mental and physical conditions should require," as was alleged in the complaint, but that the standard of liability required of a hospital under such circumstances is that it shall employ such skill and care as ordinarily obtains in the conduct of such institutions in the same general neighborhood, similarly situated as the defendant's hospital; thus applying to a hospital the standard of liability which it claimed is applied to physicians and surgeons, citing 21 R. C. L. 385, 386. But the defendant's statement of the rule as to physicians and surgeons was not quite accurate under the authority cited; the criterion there given being, not the skill and care obtaining in the particular locality, but in similar communities. The rule as to physicians and surgeons is said to be that they are required to possess the skill, learning and experience ordinarily possessed by persons of their profession at the time, in similar localities, and with similar opportunities for practice, and are bound to the exercise of reasonable care and diligence in the application of their learning and skill to the particular case. This rule may be equally applicable to the responsibility of a hospital for the conduct of the nurses in its employ, so far as the particular acts involved require the exercise of professional learning or skill; but none of the cases cited by the defendant apply the rule as to professional treatment to all the kinds of care and attention rendered by the nurses in a hospital. The generally accepted requirement is that a private hospital conducted for gain must, in the care of its patients, exercise such reasonable care and attention for their safety as their mental and physical condition, if known, may require. It would require no professional skill or learning for the attending nurse to know that the exposure under the circumstances alleged in the complaint was a menace to the plaintiff's health, and the ordinary rules as to negligence were properly applied. The demurrer was properly overruled. Nor was an assignment of error maintainable which attacked the sufficiency of the evidence to support the verdict because there was no evidence as to the conduct of similar institutions in respect to the acts complained of.

In questions asked of physicians duly qualified as experts, after stating hypothetically the facts shown by the evidence, as to the plaintiff having been left sitting up, exposed to the

cold, and without attention, the witnesses were asked whether they would consider such treatment to be proper care and attention, and were also asked whether, in their opinion, the exposure and fatigue of the plaintiff, resulting from the defendant's acts, were the cause of the subsequent complications. The defendant contended that these questions called for the opinion of the witnesses on the very issues to be determined by the jury, and usurped the province of the jury, but the court does not consider that there was error in permitting answers over the defendant's objections.

Again, it was urged that the evidence did not show that the acts of the defendant were the proximate cause of the plaintiff's subsequent ailments, but rather showed that the proximate cause was the previous existence in his body of the germs which cause pneumonia. But this case came within the rule that the negligent acts producing an injury are actionable, even though in themselves they would not have produced the injury, had the physical condition of the plaintiff not been in such condition as to render him susceptible to such injury.

Action for Failure to Furnish Services of Physician

(Hamilton v. Paint Creek Coal Mining Co. (W. Va.), 137 S. E. R. 535)

The Supreme Court of Appeals of West Virginia, in reversing a ruling which sustained a demurrer to the declaration of the plaintiff, who sued as administratrix, says that the action was on case, as it termed it. The declaration charged, in substance, that the defendant mining company agreed with G. L. Hamilton, one of its employees, in consideration of $1 every two weeks, to furnish and provide G. L. Hamilton, and each and all of the members of his family, a reasonably careful, prudent, skilled and competent physician for and during any sickness of Hamilton or any member of his family; that the plaintiff's decedent, a child 6 months of age at the time of its death, was, in his lifetime, a member of the family of Hamilton; that while the agreement was in force the child became suddenly ill, whereupon the plaintiff called on a physician then in the employ of the defendant, to attend and treat the infant, but that the physician failed and refused to render any medical aid to the child, as a result of which it developed cholera infantum and soon died; that the physician was negligent, unskilled and incompetent—all of which the defendant knew, or in the exercise of reasonable diligence should have known. The record did not disclose grounds of demurrer. Nor does the court agree with the defendant's contentions that (1) the action should have been on contract and not in tort; (2) the contract between G. L. Hamilton and the defendant not being for the sole benefit of the decedent, suit in equity and not an action at law should have been brought; (3) the declaration should have shown in what way the decendent was a member of G. L. Hamilton's family. The court holds that in such a case either an action of assumpsit or one of trespass on the case, for damages, may be maintained. Whether or not the decedent was a member of the family of G. L. Hamilton would depend on the proof.

Different Disabilities—Judge Examining Condition

(Dosen v. East Butte Copper Mining Co. (Mont.), 254 Pac. R. 880)

The Supreme Court of Montana says, in this proceeding under the workmen's compensation act of that state, that the act contemplates the possibility of four resulting conditions from an injury: (1) temporary total disability; (2) permanent total disability; (3) temporary partial disability; (4) permanent partial disability. The period of temporary total disability is that temporary period immediately after the accident during which the injured employee is totally incapacitated for work by reason of the illness attending the injury. During that period the law authorizes the award of compensation while medical and surgical skill is attempting, so far as it may, to restore the injured workman. The result in the beginning may be problematic. If complete recovery attends the patient, compensation ceases. If the total disability proves not temporary but permanent, payment is governed by the provision therefor. If a man who has a broken leg is confined to his bed for a period of two months, during that time he is temporarily totally disabled. If the leg is so badly injured that a good recovery never ensues, or if complication from the injury sets in so that he never makes a good recovery, he then has a permanent partial disability. The period of total disability has ceased and a period of partial disability has succeeded. Here are two classes of disabilities, one succeeding the other. When the total disability ends, and the extent of the partial disability, are questions of fact, to be decided in the first instance by the industrial accident board.

The Montana statute does not base disability, or incapacity to work—synonymous terms under the compensation law—on impairment of one's earning capacity in the employment in which he was engaged at the time of the accident. The general rule is that disability cannot be found to be total where it appears that the claimant's earning power is not wholly destroyed and that he is still capable of performing remunerative employment. In such case he is under obligation of making active effort to procure such work as he can still perform.

Compensation for permanent partial disability and also for specific loss of use of a member of the body cannot be awarded when the two result from the same injury.

The claimant in this case, by falling down a chute in a mine, suffered a fractured jaw, a compound comminuted fracture with dislocation of the right ankle, and a fractured left fibula. The court to which an appeal was taken from the award of the industrial accident board erred in declaring that the claimant was totally disabled, although it might be true that he would not be able to resume his occupation as a miner. The fact that the trial judge made a personal examination of the claimant was called to the attention of the supreme court. It was an ocular examination by a layman. That his conclusions from what he saw were to be considered in opposition to the testimony of the surgeons could not be admitted. There was little conflict between the surgeons who testified.

Osteomyelitis developed, involving both the tibia and the fibula of the right leg and extending about halfway up the leg from the ankle to the knee, but the claimant refused to submit to amputation, although little danger was to be apprehended from the operation, which several physicians advised. The industrial accident board could not order him to submit to amputation of the leg, but it could absolve the mining company from making payments of compensation during the period of his obstinate and unreasonable refusal to submit to the operation advised in this case.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, November 2-4. Dr. Louis J. Mitchell, 29 East Madison Street, Chicago, Secretary.

American Hospital Association, Minneapolis, Oct. 10-14. Dr. William H. Walsh, 18 East Division Street, Chicago, Executive Secretary.

American Public Health Association, Cincinnati, Oct. 17-20. Mr. Homer N. Calver, 370 Seventh Avenue, New York, Executive Secretary.

American Society of Tropical Medicine, Boston, October 21-22. Dr. B. Schwartz, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

Association of American Medical Colleges, Montreal, October 24-26. Dr. F. C. Zapffe, 25 East Washington Street, Chicago, Secretary.

Association of Military Surgeons of the United States, Carlisle Barracks, Pennsylvania, October 6-8. Dr. J. R. Kean, Army Medical Museum, Washington, D. C., Secretary.

Central States Pediatric Society, Cleveland, Oct. 14-15. Dr. H. T. Price, Westinghouse Building, Pittsburgh, Secretary.

Delaware State Medical Society, Farnhurst, Oct. 11-12. Dr. W. O. La Motte, Industrial Trust Building, Wilmington, Secretary.

Indiana State Medical Association, Indianapolis, September 28-30. Mr. T. A. Hendricks, Hume-Mansur Building, Indianapolis, Executive Secretary.

Inter-State Post Graduate Medical Association of North America, Kansas City, Mo., October 17-21. Dr. W. B. Peck, 82 Stephenson Street, Freeport, Ill., Managing Director.

Kentucky State Medical Association, Owensboro, October 3-6. Dr. A. T. McCormack, 532 West Main Street, Louisville, Secretary.

New York and New England Association of Railway Surgeons, New York, Oct. 21-22. Dr. Horace H. LeSeur, 41 Jackson Street, Batavia, N. Y., Secretary.

Pennsylvania, Medical Society of the State of, Pittsburgh, Oct. 3-6. Dr. Walter F. Donaldson, Jenkins Arcade, Pittsburgh, Secretary.

Southern Medical Association, Memphis, Tenn., November 14-17. Mr. C. P. Loranz, Empire Building, Birmingham, Ala., Secretary.

Vermont State Medical Society, Middlebury, Oct. 13-14. Dr. W. G. Ricker, 29 Main Street, St. Johnsbury, Secretary.

Virginia, Medical Society of, Petersburg, Oct. 18-20. Miss Agnes V. Edwards, 104½ West Grace St., Richmond, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

34: 1-158 (July) 1927

Influence of Pathology on Development of Pediatrics. I. A. Abt, Chicago.—p. 1.
*Respiratory Anaphylaxis: Sensitization, Shock, Bronchial Asthma and Death Induced in Guinea-Pig by Nasal Inhalation of Dry Horse Dander. B. Ratner, H. C. Jackson and H. L. Gruehl, New York.—p. 23.
*Relation of Maternal Diet to Hemorrhage in New-Born. C. U. Moore and J. L. Brodie, Portland, Ore.—p. 53.
*Malignant Neuroblastoma. B. Kwartin and J. R. Twiss, New York.—p. 61.
*Sickle Cell Anemia: Splenectomy. W. B. Stewart, Atlantic City.—p. 72.
Dermatoses Due to Light Sensitization: Cutaneous Dangers of Ultraviolet Radiation in Children. S. S. Greenbaum, Philadelphia.—p. 81.
Child Health in Past. P. Van Ingen, New York.—p. 95.

Horse Dander Is Anaphylactogen.—Horse dander, when used in the dry state or in solution, can serve as an anaphylactogen. A method is presented by Ratner et al. for the preparation of dry dander, and for the extraction of an anaphylactogen from this substance. Guinea-pigs have been successfully sensitized by the inhalation of dry horse dander. Shock has been induced by the inhalation of dry horse dander in guinea-pigs previously sensitized by the injection of dander extract, and they have even been killed. The experimental data in the animal and clinical evidence in the human being are shown to be so closely related as to suggest the point of view that anaphylaxis in the animal and asthma in the human subject are fundamentally the same. This particular type of anaphylaxis induced in the guinea-pig by the inhalation of a dry animal emanation the authors term "respiratory anaphylaxis," as opposed to anaphylaxis induced by parenteral injections.

Relation of Diet to Hemorrhage of New-Born.—Avitaminosis as a cause of hemorrhage of the new-born has been demonstrated by Moore and Brodie on experimental animals. A human case coming to autopsy showed similar gross and microscopic observations, without evidence of disease in the hematopoietic system. The mother's prenatal diet was markedly deficient in the water-soluble vitamin B. Abnormally profuse hemorrhage occurred during a precipitate delivery. The baby did not show contusions or other external abnormalities at birth. The symptoms which developed were rapid pulse and respiration, cold extremities, hematuria, jaundice and diarrhea. The postmortem observations demonstrated hypertrophy and dilatation of the right ventricle; hemorrhage from the right suprarenal and kidney with extensive retroperitoneal dissection; cortical and medullary hemorrhage of the left kidney; cloudy swelling and vacuolization of the liver with deposition of pigment; hyperemia of the stomach and duodenum near the pylorus, and the myelin degeneration of certain nerves as found in beriberi.

Malignant Neuroblastoma.—Kwartin and Twiss have observed three cases of "neuroblastoma malignum," each confirmed by autopsy. These occurred in children varying in age from 3 months to 3½ years. Each case presented the same clinical picture of enlarged abdomen, dyspnea, extreme cachexia and anemia and a large abdominal mass with multiple metastases in various locations. The rapid and progressive courses with fatal termination in a short time were also identical. All these features correspond to the observations recorded in the literature. This characteristic behavior differs from that of other abdominal malignancies, such as the adenorhabdomyosarcoma or embryonal tumor of the kidney proper, in which the clinical course is less rapid and the metastases less frequent and widespread. No definite rosettes could be found in any of these tumors. The nerve fibrils could be classed as nerve fibrils only by exclusion. The clinical and the anatomic and topographic characteristics, however, as well as the histologic picture, did not leave any doubt as to their true nature.

Splenectomy in Sickle Cell Anemia.—Stewart's patient was an apparently white child of Cuban descent who had been observed practically from birth. In the last three generations of this family, which can be traced with certainty, there have not been any negroes. The mother and the youngest sister, whose blood has the same tendency to form sickle cells as that of the patient, but to a much less pronounced degree, are devoid of any of the usual symptoms of the disease. The spleen in this case passed from a greatly enlarged to an atrophic condition. Before the discovery of sickle cells, this case had been diagnosed pernicious anemia. A splenectomy was done. Two months after operation, the general condition showed little change. The process of sickle cell formation continued as before.

American J. of Hygiene, Baltimore

7: 393-513 (July) 1927

*Leptospira Icterohaemorrhagiae in Wild Rats of Baltimore. E. W. Walch and G. B. Walch-Sorgdrager, Baltimore.—p. 393.
Certain Interrelations Between Plasmodium Praecox and Host. E. Hartman, Baltimore.—p. 407.
Excystation and Infection in Rat with Giardia Hamblia from Man. R. Hegner, Baltimore.—p. 433.
*Effect of Ultraviolet Radiation on Resistance to Infection. C. M. Hill and J. H. Clark, Baltimore.—p. 448.
Mosquito Fauna of Republic of Haiti. F. M. Root, Baltimore.—p. 463.
Brazilian Mosquitoes: II. Chagasia Fajardoi. F. M. Root, Baltimore.—p. 470.
Effect of Moderately High Temperature and Humidity on Central Nervous System. A. M. Baetjer, Baltimore.—p. 481.
Adsorption of Certain Viruses by Means of Particulate Substances. M. R. Lewis and H. B. Andervont, Baltimore.—p. 505.

Leptospira Icterohaemorrhagiae in Rats.—Of fifty-one rats caught by Walch and Walch-Sorgdrager, seventeen harbored *Leptospira icterohaemorrhagiae* and six were carriers of virulent strains. It is important to note that Levaditi sections of the kidneys may reveal leptospiras, when smears examined by the dark field fail to show them.

Effect of Ultraviolet Rays on Resistance to Infection.—Hill and Clark conclude from their observations that the present state of our knowledge concerning the effect of ultraviolet radiation on susceptibility to infection does not justify its use as a general therapeutic agent in infectious diseases and gives very little support to the belief that it is capable of increasing natural resistance in normal individuals.

American Journal of Public Health, Albany, N. Y.

17: 671-776 (July) 1927

Permanence of Maternity and Infancy Work in County Health Organization. J. A. Ferrell, New York.—p. 671.
Health Center. C. F. Wilinsky, Boston.—p. 677.
Lake Huron, St. Clair River and Detroit River District. F. G. Legg, Detroit.—p. 688.
"Normal" for Epidemic Diseases. A. W. Hedrich, Baltimore.—p. 691.
Rôle of Public Health Nurse in Community Mental Hygiene. F. E. Williams, New York.—p. 699.
Eradication of Salt Marsh Mosquitoes. E. Stuart and N. M. Stover, Berkeley.—p. 704.
Occurrence of Colon Group on Commercial Candies. J. Weinzirl, Seattle.—p. 708.
Industrial Morbidity Data and Physician. C. O. Sappington, Oakland, Calif.—p. 711.
Electrical Determination of Virulence on Diphtheria Cultures. I. S. Falk, F. O. Tonney, J. L. White and L. B. Jensen, Chicago.—p. 714.

Archives of Ophthalmology, New Rochelle, N. Y.

56: 319-422 (July) 1927

Development of Glaucoma Scotoma. A. H. Thomasson, New York.—p. 319.
Subjective Cyclopic Eye (Third Eye). S. Funaishi, Mukden, Japan.—p. 328.
Tear into Ciliary Body from Contusion. H. D. Lamb, St. Louis.—p. 332.
Simplified Conception of Visual Field Changes in Chronic Glaucoma. L. C. Peter, Philadelphia.—p. 337.
Divergence Excess. J. H. Dunnington, New York.—p. 344.
Apparatus for Determining Near Point of Accommodation and Astigmatic Axis. T. P. Lee, Peking, China.—p. 351.
Fundus Changes in Hypertension With and Without Nephritis. A. Barlow, Philadelphia.—p. 356.

Archives of Otolaryngology, Chicago

6: 1-106 (July) 1927

Nasopharyngeal Atresia. J. E. MacKenty, New York.—p. 1.
*Bronchiectasis Associated with Disease of Nasal Accessory Sinus. L. H. Clerf, Philadelphia.—p. 28.
Abscess of Brain Due to Colon Bacillus with Pneumocephalus. L. Richards, Boston.—p. 36.
*Deafness in School Children: Differential Diagnosis with Aid of Audiometers. E. P. Fowler, New York.—p. 43.
Gradenigo's Syndrome. R. McKinney, Memphis, Tenn.—p. 58.
New Antrum Trocar and Antrum Rasp. F. D. Woodward, University, Va.—p. 59.
Otologic and Nasal Diseases in Relation to Intracranial Disturbances. W. P. Eagleton, Newark, N. J.—p. 60.

Nasal Accessory Sinus Disease as Cause of Bronchiectasis.—Clinical observations supported by experimental studies indicate that chronic disease of the nasal accessory sinus is a factor in the production of bronchiectasis; therefore, Clerf says, examination of a patient complaining of chronic cough, with or without expectoration, is never complete until a careful study of the nasal accessory sinuses has been carried out. Every patient complaining of unexplainable chronic cough or in whom a questionable diagnosis of bronchiectasis has been made should receive the benefit of diagnostic bronchoscopic and pneumographic studies, if considered advisable.

Deafness in School Children.—The percentage of deafness found in the 1,000 pupils examined by Fowler was 7.3. He advocates regular yearly examinations of the ears.

Archives of Pathology & Lab. Med., Chicago

4: 1-154 (July) 1927

*Tubercle Bacilli in Latent Tuberculous Lesions and in Lung Tissue Without Tuberculous Lesions. E. L. Opie and J. D. Aronson, Philadelphia.—p. 1.
*Metastatic Melanoma of Jejunum. O. Saphir, Cleveland.—p. 22.
*Gross and Microscopic Anatomy of Two Peruvian Mummies. H. U. Williams, Buffalo.—p. 26.
Leiomyoma of Appendix: Case. R. D. Lillie and G. Parcher, Washington, D. C.—p. 34.
Silver Tannate Technic for Paraffin Sections from Central Nervous System. N. C. Foot, Cincinnati.—p. 36.
Reticulo-Endothelial System: Its Rôle in Pathologic Conditions in Man. R. H. Jaffé, Chicago.—p. 45.

Tubercle Bacilli in Latent Tuberculous Lesions.—Opie and Aronson examined approximately 304 lesions obtained from the lungs of 169 persons, and they inoculated into guinea-pigs material from a considerable number of each type of latent lesions and have repeatedly examined lesions of different types which occurred in the same lungs. They found that latent fibrocaseous tuberculous lesions of the pulmonary apex in most instances contain living tubercle bacilli. Many fibrous scars of the apexes (approximately one fourth) contain living tubercle bacilli even though they do not exhibit gross or microscopic evidence of tuberculosis. Caseous encapsulated or calcified tuberculous nodules of lungs or lymph nodes seldom (in 9 per cent of the cases) produce tuberculosis when inoculated into guinea-pigs unless they are derived from lungs in which there is an apical lesion. Lung tissue from the apex or base of the lungs in which tuberculous lesions are not present often causes tuberculosis when inoculated into guinea-pigs, and, likewise, tracheobronchial lymph nodes which do not contain tuberculous lesions often contain living tubercle bacilli. When pieces of tissue without tuberculous lesion from apex, base and tracheobronchial lymph nodes are examined by animal inoculation, living tubercle bacilli are found in one or another part in slightly less than one half of all persons. Living tubercle bacilli demonstrated by injecting suspensions prepared from caseous encapsulated or calcified lesions of lungs or tracheobronchial lymph nodes are derived, with few if any exceptions, from the adherent lung or lymphoid tissue and not from the lesion itself. Apical lesions of adult life make their appearance at a time when lesions caused by tuberculous infection of childhood no longer contain living tubercle bacilli; they occur as the result of exogenous infection.

Metastatic Melanoma of Jejunum.—The case reported by Saphir deals with a primary melanoma in the region of the right nipple, with metastasis to the supraclavicular, axillary, inguinal and mesentric lymph nodes, to the liver, jejunum and brain. Signs of a local recurrence were not evident. The fact that the metastatic tumor of the jejunum arose at a point just opposite the mesenteric attachment indicates that the tumor originated in the intestinal wall. The smaller tumors in the ileum arose from the region of the mesenteric attachment, which shows that they originated in the mesenteric lymph nodes.

Examination of Mummies.—The results enumerated by Williams encourage the belief that, in mummies which have the thoracic and abdominal viscera in position, considerable success could be achieved in recognizing pathologic conditions and possibly in determining the cause of death.

Archives of Surgery, Chicago

15: 1-154 (July) 1927

*Acute and Chronic Pancreatitis. T. S. Cullen and J. Friedenwald, Baltimore.—p. 1.
*Ossifying Fibromas of Jaw. A. H. Montgomery, Chicago.—p. 30.
*Relationship of Chronic Subdural Hematoma and Pachymeningitis Hemorrhagica Interna: Bile Pigment in Hematoma. R. A. Griswold and F. Jelsma, Louisville, Ky.—p. 45.
Influence of Liver on Toxicity of Bile. E. C. Davidson and W. C. Emerson, Detroit.—p. 57.
Relation of Pylorus to Duration of Experimental Gastric Ulcer. W. Hughson, Baltimore.—p. 66.
*Coalition of Calcaneus and Navicular. C. E. Badgley, Ann Arbor, Mich.—p. 75.
Deposition of Calcium Salts in Areas of Calcification. J. C. Watt, Toronto.—p. 89.
Chronic Seminal Vesiculitis and Prostatitis: Operative Treatment. J. H. Morrissey, New York.—p. 102.
*Hypertrophic Arthritis of Spine in Patients Over 50. J. D. Garvin, Rochester, Minn.—p. 118.
Review of Urologic Surgery. A. J. Scholl, Los Angeles; E. S. Judd, Rochester, Minn.; L. D. Keyser, Roanoke, Va.; G. S. Foulds, Toronto; J. Verbrugge, Antwerp, Belgium, and A. A. Kutzmann, Los Angeles.—p. 129.

Acute and Chronic Pancreatitis.—Four cases of acute and fifteen cases of chronic pancreatitis are reviewed by Cullen and Friedenwald. It is stated that, in the prophylactic treatment of this condition, attention must be especially directed to the early removal of gallstones before complications have occurred and, as preventive measures, a carefully regulated diet should be followed, together with nonsurgical biliary drainage to avoid or to overcome infection in the biliary tract and prevent the onset or progress of this serious disorder. When the disease is definitely established, immediate operation is advised. If gallstones or pancreatic stones are present, they should be removed and infection overcome. It is important to secure effective drainage of the biliary passages by means of cholecystostomy, cholecystenterostomy or gastrocholecystostomy.

Ossifying Fibromas of Jaw.—Montgomery reviews briefly fourteen cases already on record and reports fully three new cases.

Chronic Subdural Hematoma.—Griswold and Jelsma review eight cases and conclude that chronic subdural hematoma and pachymeningitis hemorrhagica interna are the same, clinically and pathologically. Both probably have their origin in trauma, with some predisposing vascular lesion as a factor. In five of their cases alcohol was a factor. Trauma, headache, psychosis and coma is the usual sequence with additional variable neurologic signs. This condition should be considered in patients presenting this series of symptoms, and surgical treatment instituted if indicated.

Coalition of Calcaneus and Navicular.—Coalition of the calcaneus and the navicular, partial or complete, is regarded as being a possible cause of rigid flatfoot, which should be differentiated from the usual type. The usual routine roentgenogram does not sufficiently demonstrate the deformity. The direction of the ray should be oblique to the foot. The abnormal formation of the bone is then clearly shown. The appearance of symptoms at the age of puberty is a striking factor in the clinically reported cases. Six cases are reported.

Hypertrophic Arthritis of Spine.—In a series of 2,000 patients more than 50 years of age, for whom roentgenograms of the kidneys, ureters and bladder were taken, 40 per cent of the women and 67 per cent of the men showed hypertrophic arthritis of the spine, which condition Garvin designates as "incidental hypertrophic arthritis of the spine." On account of the nature of the group chosen, the predominating

type of chief complaint was genito-urinary, as were also the primary diagnoses. Of the men, 70.9 per cent showed diseased prostates. Seventy-four per cent of the men and 61.3 per cent of the women were without any complaint whatever of the various types of "rheumatic," neuromuscular and arthritic pains. Of the women whose teeth were investigated as possible foci, 80 per cent had periapical infection; including those with pyorrhea, 95 per cent had dental sepsis. Of the men, 72 per cent had periapical infection; including those with pyorrhea, 94 per cent had dental sepsis. Of those undergoing thorough examination of the tonsils, 15 per cent of the women and 20 per cent of the men showed definite tonsillar sepsis; 75 per cent of thirty-nine men referred for examination of the prostate had definite infection. The traumatic factor in the etiology is partially illustrated by the presence of obesity, in which the assumption of chronic trauma can be made in 24 per cent of the men and in 33 per cent of the women. The degenerative or senescent nature of this "incidental" arthritis is shown by other evidences of senescence in 71 per cent of the men, including hypertrophy of the prostate, and in 32.3 per cent excluding this condition. Such evidences were present in 32.3 per cent of the women.

Boston Medical and Surgical Journal

197: 41-78 (July 14) 1927

*Subacute Bacterial Endocarditis. L. M. Hurxthal, Boston.—p. 41.
*Id.: Incidence at Massachusetts General Hospital. H. Morrison, Boston. —p. 46.
Tuberculous Infection: Quantity, Virulence and Frequency. E. R. Baldwin, Saranac Lake, N. Y.—p. 49.
Cancer of Breast. E. M. Daland, Boston.—p. 57.
Heritage of Middlesex South. D. O'Hara, Waltham, Mass.—p. 60.

Subacute Bacterial Endocarditis.—Sixty-five cases of subacute bacterial endocarditis have been reviewed by Hurxthal from the point of view of differential diagnosis. A tentative explanation is offered for the frequency of some of the pulmonary signs and symptoms occurring in this disease by the lodgment of emboli in the nutrient bronchial arteries of the lungs. Gross infarction was traceable to the right heart. The rarity of clubbing in this series, excepting congenital lesions, in the absence of a palpable spleen is offered as a differential diagnostic sign. Precordial pain in this series was usually associated with an aortic lesion. Normal rhythm was present in all cases. The presence of auricular fibrillation is against the diagnosis of this disease. The clinical differentiation between chronic vascular nephritis and the embolic nephritis of subacute bacterial endocarditis is shown. Ten cases showing central nervous system involvement along with the spinal fluid observations are reported. The most characteristic observation suggests the presence of an aseptic meningitis. The variability of the white count is emphasized and the presence of macrophages or other cells of the reticuloendothelial system are described and their importance designated. The importance of cutaneous embolic phenomena and clubbing of the fingers in diagnosis is discussed. The clinical diagnosis of this disease rests essentially on embolic manifestations in various parts of the body.

Endocarditis at Massachusetts General Hospital.—Between 1904 and 1926, inclusive, the records at the Massachusetts General Hospital show 145 cases of endocarditis that may be classified in the subacute and twenty-six cases in the acute bacterial group. During the same period there were 427 cases of acute rheumatic endocarditis. Blood culture examinations were made in 126 of the subacute bacterial group. Forty-three did not show any growth. Embolic processes were noted in ninety-six of the cases. Forty-two cases came to necropsy; in thirty-five of these there was evidence of old rheumatic infection. Morrison states that all therapeutic effort has thus far been futile. The only preventive measure lies along the line of prevention of rheumatic fever.

California and Western Medicine, San Francisco

27: 1-144 (July) 1927

Public Health and Public Health Service. H. S. Cumming, Washington, D. C.—p. 33.
Education of Physicians. W. W. Campbell, Berkeley.—p. 37.
Antirachitic Value of Human Milk. H. J. Gerstenberger, J. I. Hartman and D. N. Smith, Cleveland.—p. 40.
Comparative Contribution of Lister and Osler. W. B. Munro, Cambridge, Mass.—p. 44.
Goiter Problem. G. W. Middleton, Salt Lake City.—p. 47.
Ketogenic Diets for Epileptics. D. S. Pulford, Woodland.—p. 50.
*Use of Glucose and Insulin in Prevention of Surgical Shock. C. M. Anderson, Hermosa Beach.—p. 56.
*Undulant Fever. J. C. Ruddock, Los Angeles.—p. 61.
*Hay-Fever in Nevada. H. Albert and V. DeBell, Reno, Nev.—p. 65.
Nitrous Oxide-Oxygen Anesthesia of Children. D. A. Wood, San Francisco.—p. 68.
*Noninversion of Appendix Stump. F. I. Harris, San Francisco.—p. 69.
Nasal Accessory Sinusitis in Children. A. H. Aland, Ogden, Utah.—p. 74.
Importance of Chronic Arthritis in Industrial Work. C. E. Rees, San Diego.—p. 77.
Peptic Ulcer and Achlorhydria. G. Cheney, San Francisco.—p. 78.
Pyocyanic Stomatitis with Agranulocytic Leukopenia. F. H. Linthicum, Los Angeles.—p. 78.
Sloughing of Urethra Following Use of 10 Per Cent Solution of Acriflavine. W. G. Schulte, Salt Lake City.—p. 80.

Dextrose and Insulin to Prevent Surgical Shock.—Anderson concludes that surgical shock is a suboxidation due principally to insufficient elaboration of insulin in the tissues with a resultant acidosis probably intracellular. He advises mouth administration of dextrose in these cases.

Undulant Fever.—Any case of long continued fever with sweats, enlarged spleen and leukopenia, in which a proved diagnosis cannot be made, Ruddock would suspect as being an abortus infection. A case is reported. It is of interest to note that this patient nursed a baby for the first five weeks of her illness. The baby, however, did not contract the disease and did not suffer untoward effects. This is a rather remarkable coincidence, in view of the fact that the disease is a milk-borne infection.

Hay-Fever in Nevada.—Nevada has been generously supplied with hay-fever plants, and the victims are proportionately numerous. Indeed, hay-fever is one of the real health problems of the state. Albert and DeBell state that the results of the preventive treatment of hay-fever by means of the appropriate pollen extracts have been very encouraging. A report was obtained from the physicians in charge of seventeen persons who had been tested. Of that number five reported complete relief from symptoms. All of the remainder were given considerable relief. In one it was only 25 per cent; in four, from 50 to 60 per cent; and in seven, from 75 to 90 per cent. Some of the patients did not begin treatment until after symptoms of the disease had made their appearance.

Noninversion of Appendix Stump.—Harris asserts that the inversion methods of treating the appendix stump are dangerous, unsurgical and unnecessary procedures.

Florida Med. Assoc. Journal, Jacksonville

14: 1-50 (July) 1927

American Medical Association. P. Marvel, Atlantic City, N. J.—p. 17.
Congenital Hypertrophic Pyloric Stenosis. J. W. Snyder, Miami.—p. 20.
Chronic Duodenal Ileus. T. Z. Cason and J. A. Beals, Jacksonville.—p. 26.
*Hysterectomy: Removal of Fetus Afterward. J. S. Turberville, Century. —p. 32.
Penetrating Wounds of Abdomen. H. D. Van Schaick, Jacksonville.—p. 33.

Hysterectomy: Removal of Live Fetus Afterward.—In Turberville's first case, pregnancy was not suspected as the examination revealed definitely fibroid masses in the uterus. A leisurely hysterectomy was done up to the point of incising the cervix, which then showed a fetal head, and was hurried from this time onward. As soon as the uterus was cut loose, it was rapidly opened and the child extracted and given to an assistant for resuscitation. Mother and child had an uninterrupted convalescence. The second patient had been delivered by cesarean section forty months previously. On account of her poor physical condition, exhaustion and shock, the tubes were hastily crushed and tied off, and the operation made as short as possible. She and her baby both made an uninterrupted convalescence. She became pregnant again and went into labor; she was operated on again, and after the adhesions had been freed, a rapid hysterectomy was done, which was almost bloodless. The baby was extracted quickly and resuscitated with no more difficulty than in the average cesarean section. The mother and child had an uninterrupted convalescence.

Illinois Medical Journal, Oak Park

52: 1-88 (July) 1927

Illinois State Medical Society. H. M. Camp, Monmouth.—p. 36.
Insulin. E. P. Joslin, Boston.—p. 42.
Human Spine. E. J. Carey, Milwaukee.—p. 51.
Life Savers. H. H. Cox, Chicago.—p. 61.
Hernias of Diaphragm. S. F. Clark, Evanston.—p. 63.
Ligamentous Injury About Knee Joint. F. G. Murphy, Chicago.—p. 69.
Diagnosis of Dental and Oral Diseases: Relation to Systemic Disturbances. E. L. Aison, Chicago.—p. 72.
Rôle of Focal Infection in Disease of Urinary Tract. C. Macfarlane and F. S. Fetterman, Philadelphia.—p. 80.
Cholesteatoma of Cecum. D. Klemptner and D. J. Palmisano, Chicago.—p. 82.

Indiana State Med. Assoc. Journal, Ft. Wayne

20: 247-282 (July) 1927

Heart Disease. J. B. Herrick, Chicago.—p. 248.
Gynecologic and Obstetric Tuberculosis. V. A. Funk, Vincennes.—p. 251.
Ethics. M. F. Porter, Fort Wayne.—p. 255.
Acrodynia: Case. A. F. Muelchi, Evansville.—p. 258.
Beacon Lights of Medical History. M. T. Jay, Portland.—p. 260.

Iowa State Med. Society Journal, Des Moines

17: 223-268 (July) 1927

Five Cases of Shoe Dye Poisoning. H. Albert and J. Wallace, Des Moines.—p. 225.
Scarlet Fever Prevention by Biologicals. D. M. Griswold, Iowa City.—p. 227.
Generalized Vaccinia. C. S. Cornell, Knoxville.—p. 229.
General Practitioner's Service to Medicine. J. McDannell, Nashua.—p. 230.
Relation of Internal Medicine to General Practice of Medicine. F. W. Heagey, Omaha.—p. 233.

Journal of Bone and Joint Surgery, Boston

9: 381-600 (July) 1927

*Origin of Rice Bodies in Bursal Sacs. E. B. Mumford, Indianapolis.—p. 381.
Hitherto Undisturbed Dystrophy, Probably of Syphilitic Origin, Affecting Particularly Joints of Lower Extremity. C. F. Eikenbary, Seattle.—p. 387.
Operations on Upper Extremity: Problems in Kinetics; End-Results. A. Steindler, Iowa City.—p. 404.
*Transplantation of Trapezius for Paralysis of Abductors of Arm. L. Mayer, New York.—p. 412.
*Teaching Orthopedic Surgery to Undergraduates. M. H. Rogers, Boston.—p. 421.
*Spondylolisthesis. F. H. Albee, New York.—p. 427.
New Fracture Table to Be Used with Fluoroscope. J. O. Rankin, Wheeling, W. Va.—p. 447.
Unequal Gait and Its Remedy. S. F. Stewart, Los Angeles.—p. 449.
Spinal Anesthesia in Orthopedic Surgery. C. W. Peabody, Detroit.—p. 450.
Osteochondritis Deformans Juvenilis of Shoulder Joint. P. Lewin, Chicago.—p. 456.
*Bone in Hodgkin's Disease. S. M. Cone, Baltimore.—p. 458.
Etiology of Claw-Foot and Associated Talipes Equinus. N. D. Royle, Sydney, Australia.—p. 465.
Congenital Luxation of Knee. H. W. Spiers, Los Angeles.—p. 469.
Mechanics of Patella. J. C. Moloney, Detroit.—p. 476.
Study of Healing Processes in Injuries to Carpal Scaphoid. R. W. Johnson, Jr., Baltimore.—p. 482.
Epiphyseal Separation of Ischium. B. L. Schoolfield, Dallas, Texas.—p. 498.
Bilateral Relaxation of Superior Tibiofibular Articulation. B. L. Schoolfield, Dallas, Texas.—p. 500.
Reversed Barton's Fracture. F. Christopher, Winnetka, Ill.—p. 502.
Pneumatic Hammer for Bone Surgery. H. C. Pitkin, Boston.—p. 505.
*Lesions of Semilunar Cartilages of Knee Joint. R. Galeazzi, Milan, Italy.—p. 515.
*Endotheliomata of Bone. M. M. Pomeranz, New York.—p. 524.
Metatarsus Atavicus. D. J. Morton, New Haven, Conn.—p. 531.
Congenital Deficiency of Clavicle: Hereditary Cleidocranial Dysostosis. E. D. McBride, Oklahoma City; Oklahoma.—p. 545.
Articular Disease. A. de Laguna, Segovia, Italy.—p. 553.
Care of Cripples in Sweden. E. D. Hauser, Rochester, Minn.—p. 568.

Rice Bodies in Bursae.—Three cases of "rice bodies" occurring in chronic bursitis are presented by Mumford, and the theory is advanced that these bodies are formed from the fibrin of the fluid in the sac and did not originate in the sac wall.

Transplantation of Trapezius for Abductor Paralysis.—By lengthening the trapezius with a strip of fascia lata, Mayer utilizes this muscle as an effective substitute for the paralyzed abductors. Essential to success of the procedure is the presence not only of a strong trapezius and serratus magnus but also of one additional muscle—either the clavicular portion of the pectoralis major, the biceps or the coracobrachialis. The operation has the advantage over the arthrodesis that it gives a more complete range of abduction and the esthetic effect is more pleasing. It has the disadvantage of requiring at least three months of postoperative exercises.

Teaching Orthopedic Surgery to Undergraduates.—Rogers emphasizes the importance of teaching principles rather than individual diseases, the importance of teaching the subjects that are most commonly met in a general practice, and leaving the details of the more complicated subjects to postgraduate work.

Spondylolisthesis.—Albee reports eight cases in which he has employed an immobilizing spine operation for spondylolisthesis with most gratifying results.

Bone in Hodgkin's Disease.—Cone states that in Hodgkin's disease the process in bone partakes of the same nature as that in other parts of the body. The reticulo-endothelial and related cells are involved alike. There is the same tendency to form connective tissue of a hyaline or fibrous type. There are Dorothy Reed giant cells (though less common in the bone). There is some small round-cell accumulation. Coagulation necrosis is evident in all. The progressive tissue change in bone is not confined to the connective tissue formation. There is evidence of stimulation of the blood-forming tendency in the increase in normoblasts. Connective tissue formation is found in the marrow cavity in long continued intermittent chronic passive congestion, in long standing arteriosclerosis of the limbs, pernicious anemia, chronic tuberculosis, syphilis and in the neighborhood of cancer metastases. It would appear that a passive circulation in the presence of an irritant is responsible for this fibrosis.

Lesions of Semilunar Cartilages of Knee Joint.—In his experiments Galeazzi has succeeded sometimes in producing transverse fractures of the cartilages by forced lateral movements of the leg, the knee being slightly flexed, but he has never succeeded in producing a lesion by means of forced hyperextension. Twice he has succeeded in obtaining convincing evidence of a direct and definite causal relationship between the stretching of the crucial ligaments and the fracture of the meniscus.

Endothelioma of Bone.—Three cases of endothelioma of the bone are reported by Pomeranz, and the similarity between this condition and osteomyelitis is stressed.

Journal of Nervous & Mental Dis., New York

66: 1-104 (July) 1927

*Metastatic Carcinoma of Central Nervous System. N. W. Winkelman, Philadelphia, and J. L. Eckel, Buffalo.—p. 1.
Endocrinology and Psychiatry. M. Serejski, Moscow.—p. 15.
Drug Addiction: Struggle for Cure and Conscious Reasons for Relapse. L. Kolb, Washington, D. C.—p. 22.

Metastatic Carcinoma of Brain and Meninges.—Winkelman and Eckel report seven cases of primary carcinoma of the breast with metastases in the dura in five cases and in the brain in two cases. In one case of primary cancer of the prostate, metastases were present in the spinal dura, and in another similar case in the vessels of the brain and pia. The symptomatology as regards the nervous system was very variable and indefinite. The onset of the neurologic symptoms varied from fourteen months to eight years after the recognition of the primary tumor. In four cases motor weakness of a part or parts of the body focused the attention to the nervous system. Headache, irritability and mental dulness were the only symptoms present in two cases. Choking of the disks was noted in three cases. Convulsions occurred in two cases, and in both of these death occurred shortly afterward. In one the convulsion was generalized, while in the other it produced epilepsia partialis continua.

Journal of Preventive Medicine, Chicago

1: 401-447 (July) 1927

Fifth Sedgwick Memorial Lecture. H. Emerson, New York.—p. 401.
*Viability of Pathogenic Organisms in Butter. A. E. Berry, Toronto.—p. 429.

Viability of Pathogenic Organisms in Butter.—Investigations made by Berry demonstrate that butter cannot be dis-

regarded as a potential factor in the spread of communicable diseases. The barriers generally regarded as sufficient protection—acidity and salt content—may be either absent or present in such small quantities as to play a negligible part. The viability of pathogenic organisms in butter seems to be dependent on their ability to survive in unnatural conditions where there is neither temperature nor food suitable for growth and multiplication. The resistance of typhoid organisms in butter for at least three and one-half months creates a public health menace where butter is improperly cared for, while the organisms commonly associated with food infections are even more resistant and able to survive for a period—seven and one-half months—equal to or greater than the time that butter would be kept under commercial conditions. In view of this, the question might well be considered as to whether numerous cases both of typhoid and related diseases of untraceable origin do not in part arise from infected butter.

Kentucky Medical Journal, Bowling Green

25: 333-390 (July) 1927

Cesarean Section. J. H. Peak, Louisville.—p. 336.
Massive Bone Graft in United Fractures. W. B. Owen, Louisville.—p. 346.
*Tularemia: Seven Cases. C. N. Kavanaugh, Lexington.—p. 352.
Bicornate Uterus. A. H. Barkely, Lexington.—p. 358.
Future Medicine of Carlisle County. J. F. Dunn, Arlington.—p. 359.
Gymnastics for School Children. B. A. Washburn, Paducah.—p. 367.
Why Cooperation of Physician and Druggist. H. B. Chapman, Bardwell.—p. 368.
Growing Prevalence in Rural Districts of Artificial Feeding of Infants. J. T. Marshall, Bardwell.—p. 369.
Enterocolitis in Children. W. Z. Jackson, Arlington.—p. 371.
Hypotension. H. T. Crouch, Bardwell.—p. 372.
Celiac Disease. G. W. Payne, Bardwell.—p. 373.
Diagnosis of Acute Mastoiditis. C. T. Wolfe, Louisville.—p. 376.
Compensation Practice. S. B. Snyder, Hazard.—p. 384.
Use of Isotonic Solutions for Nasal Administration. J. E. Rush, Lexington.—p. 384.
Colonic Malignancy: Anastomosis of Colon to Sigmoidorectal Junction. E. S. Allen, Louisville.—p. 385.

Tularemia in Kentucky.—Seven cases of tularemia from Kentucky are reported by Kavanaugh, six of the ulceroglandular type and one of the typhoid type. A case of autoinfection during the active course of disease is also reported. The microscopic appearance of an axillary lymph gland is described.

Military Surgeon, Washington, D. C.

61: 1-128 (July) 1927

Chemistry of Living Substance; Adaptability to Its Environment. V. C. Vaughan.—p. 1.
Organization of Medical Service of Czechoslovak Army. A. Pazdernik.—p. 15.
War Time Injuries of Head. A. M. Hanson.—p. 21.
New Vaccine for Rinderpest Immunization. R. A. Kelser.—p. 31.
Malta Fever Treated with Mercurochrome. M. L. Todd.—p. 34.
Medical Detachment Field Order. T. L. Rhoads.—p. 36.
Apparent Recovery from Multiple Sarcomas. S. L. Christian and L. A. Palmer.—p. 42.
Two-Wheeled Collapsible Litter Cart. J. P. Fletcher.—p. 48.
First Aid Treatment of Poisoning Due to Rattlesnake Bite. W. C. Cox.—p. 53.

Minnesota Medicine, St. Paul

10: 405-464 (July) 1927

Toxic Goiter: Surgical Treatment. A. Schwyzer, St. Paul.—p. 405.
Id.: Medical Treatment. M. M. Ghent, St. Paul.—p. 409.
Id.: Pathology. M. Warwick, St. Paul.—p. 411.
Surgery in Gastric Ulcer. V. S. Cabot, Minneapolis.—p. 412.
Medical Treatment of Duodenal Ulcer. A. A. Wohlrabe, Minneapolis.—p. 419.
Treatment of Fracture of Shaft of Femur. A. E. Olso, Duluth.—p. 422.
Light and Health. W. Stenstrom, Minneapolis.—p. 429.
Infectious Mononucleosis. E. T. F. Richards, St. Paul.—p. 434.

Missouri State M. A. Journal, St. Louis

24: 275-340 (July) 1927

Progress of Medicine. W. H. Breuer, St. James.—p. 275.
What, Why and How We Must Tell World. C. M. Rosser, Dallas, Texas.—p. 278.
Types of Nephritis. R. A. Kinsella, St. Louis.—p. 282.
Blood Transfusion. G. Ives, St. Louis.—p. 285.
Insanity and Mental Diseases in Missouri. E. D. Hatcher, Carthage.—p. 289.
Ocular Manifestations in Systemic Infections. J. W. Sherer, Kansas City.—p. 294.
Some Causes of Heart Disease Other Than Infections. J. F. Chandler, Oregon.—p. 296.
*Radiography: Indispensable Aid in Chest Diagnosis. L. R. Sante, St. Louis.—p. 298.

Radiography in Chest Diagnosis.—Sante feels that the diagnosis of any pulmonary lesion is hazardous without supplementary radiographic examination.

Nebraska State Medical Journal, Norfolk

12: 241-280 (July) 1927

Postoperative Pulmonary Embolism. D. B. Steenburg, Aurora.—p. 241.
Dental Infections. E. W. Rowe, Lincoln.—p. 244.
Traumatic Aneurysm: Suture of Wound in Femoral Artery; Popliteal Aneurysm: Restoration of Continuity of Artery. J. E. Summers, Omaha.—p. 251.
Epidemiology of Tuberculosis. W. N. Anderson, Omaha.—p. 253.
Intra-Ocular Lesions Caused by Direct Concussion of Eyeball. C. M. Swab, Omaha.—p. 256.
Veins of Head and Face and Their Relation to Infection. R. R. Best, Omaha.—p. 259.
Treatment of Scarlet Fever. E. V. Wiedman, Lincoln.—p. 260.

New Jersey Med. Soc. Journal, Orange

24: 403-464 (July) 1927

Hemorrhagic Diseases. N. Rosenthal, New York.—p. 405.
Heart Disease. W. D. Stroud, Philadelphia.—p. 410.
Electrocardiograph: Value. L. Levin, Trenton.—p. 412.
Important Etiologic Factors in Cardiac Disease. H. Brooks, New York.—p. 417.
Controllable Spinal Anesthesia. G. J. Pitkin, Teaneck.—p. 425.

New Orleans Medical and Surgical Journal

80: 1-66 (July) 1927

Relation of Venereal Diseases to Vision Defects. B. F. Royer, New York.—p. 1.
Mental Hygiene in Relation to General Health. G. M. G. Stafford, Alexandria, La.—p. 6.
Milk: Relation to Infectious Disease. P. R. Neal, Monroe, La.—p. 11.
Milk Problem from Municipal Health Officer's Viewpoint. J. G. Martin, Lake Charles, La.—p. 17.
Electrocardiography. G. R. Herrmann, New Orleans.—p. 19.
Achylia Gastrica. D. N. Silverman, New Orleans.—p. 27.
Cancer. U. Maes, New Orleans.—p. 30.
Psychiatry for General Practitioner. D. H. Keller, Pineville, La.—p. 35.
Acute Encephalitis: Case. M. Campagna, New Orleans.—p. 40.

New York State J. Med., New York

27: 701-756 (July 1) 1927

Neurosurgery in New-Born and Children. W. Sharpe, New York.—p. 701.
Treatment of Placenta Praevia. R. McPherson, New York.—p. 704.
Undulant Fever in Cattaraugus County. M. E. Fisher, Delevan, and J. P. Garen, Olean.—p. 706.
Pathologic Conditions and Disturbed Functions of Special Sense Organs: Relation to Psychoses. G. E. Davis, New York.—p. 708.
Treatment of Pneumonia with Oxygen. J. R. Wiseman, Syracuse.—p. 709.
Proving Diagnosis of Suspected Diabetes Mellitus. J. A. Buchanan, Brooklyn.—p. 711.
Psychosis Caused by Latent Focus of Infection (Ischiorectal Abscess). G. Zilboorg, White Plains.—p. 714.
Radium Therapy in Tuberculosis Cervical Adenitis. G. A. Robinson, New York.—p. 717.

27: 757-818 (July 15) 1927

*Arsenic Findings in Dermatologic Conditions. B. Throne, L. S. van Dyck, E. Marples, and C. N. Myers, New York.—p. 757.
Fatigue in Children. G. R. Irving, New York.—p. 764.
Ulcerative and Gangrenous Balanitis. M. A. Reasoner, New York.—p. 767.
Tuberculosis of Abdominal Lymph Nodes in Early Life. J. L. Morse, Boston.—p. 773.
Prognostic Values in Measurement of Intelligence. I. S. Wile, New York.—p. 776.
Incompletely Dilated Cervix. P. T. Harper, Albany.—p. 780.

Arsenic in Skin Diseases.—Arsenic in pathologic amounts was found by Throne et al. in the urine, in cases of eczema, scleroderma, leukoderma, psoriasis, Majocchi's disease, pemphigus, motor ocular paralysis and pigmentation. They believe that food contamination and occupational contact are the more frequent sources of the poisoning.

Oklahoma State Med. Assoc. Journal, Muskogee

20: 188-220 (July) 1927

Uses and Abuses of Insulin. L. A. Reily, Oklahoma City.—p. 188.
Epidemic Encephalitis. M. S. Gregory, Oklahoma City.—p. 192.
Asthma in Children. R. M. Balyeat, Oklahoma.—p. 196.
Streptothrix Infection in Human. L. A. Mitchell, Stillwater.—p. 204.

Physical Therapeutics, Baltimore

45: 311-362 (July) 1927

Putting Physical Therapy Before Medical Profession. H. Mock, Chicago.—p. 311.
Council on Physical Therapy. F. B. Granger, Boston.—p. 316.
Physical Therapeutic Measures in Treatment of Infections, Infiltrations, and Myomas of Prostate. G. J. Ott, Boston.—p. 319.
Physical Therapy in Europe. R. Kovacs, New York.—p. 327.
Phototherapy and Apparatus. F. T. Woodbury, New York.—p. 337.

Rhode Island Medical Journal, Providence

10: 97-114 (July) 1927

Weight Reduction in Nervous and Mental Diseases. W. N. Hughes, Providence.—p. 97.

Surgery, Gynecology and Obstetrics, Chicago

45: 1-118 (July) 1927

Massive Lipoma of Kidney: Case. W. E. Lower and G. W. Belcher, Cleveland.—p. 1.
*Suture of Facial Nerve Within Temporal Bone. S. Bunnell, San Francisco.—p. 7.
Acute Infections of Lower Abdomen. D. P. Wilkie, Edinburgh, Scotland.—p. 13.
*Excision of Ulcer of Duodenum. E. S. Judd and G. W. Nagel, Rochester, Minn.—p. 17.
*Etiology of Empyema: Hemothorax in Idiopathic and Postoperative Empyema. D. S. Allen, St. Louis.—p. 23.
*Metastatic Thyroid and Parathyroid Bone Tumors. R. Alessandri, Rome, Italy.—p. 35.
Multiple Cartilaginous Exostoses: Diaphyseal Aclasis. P. Lewin, Chicago.—p. 48.
*Osteitis Deformans. W. van Hazel and E. Andrews, Chicago.—p. 54.
*Maternal Obstetrical Sciatic Paralysis. S. Kleinberg, New York.—p. 61.
Operations for Tumors of Orbit. A. Elschnig, Prague, Czechoslovakia.—p. 65.
Technic of Cardiorrhaphy. E. C. Cutler and C. S. Beck, Cleveland.—p. 74.
*Supravaginal Removal of Myomatous Uterus with Foul Uterine Discharge. T. S. Cullen, Baltimore.—p. 80.
*Use of Iodized Oil in Diagnosis of Pulmonary Lesions. S. Iglauer, Cincinnati.—p. 82.
*Correction of Saddle Nose. J. N. Roy, Montreal.—p. 88.
*Repair of Crucial Ligaments of Knee. C. F. Eikenbary, Seattle.—p. 93.
Hernia Through Foramen of Winslow: Case. J. W. Dewis and R. H. Miller, Boston.—p. 95.
Repair of Large Vesicovaginal Fistulae. C. A. Roeder, Omaha.—p. 102.
Local Anesthesia in Gynecology and Obstetrics. G. Gellhorn, St. Louis.—p. 105.
Rational Treatment of Tubal Disease. C. J. Miller, New Orleans.—p. 110.

Suture of Facial Nerve in Temporal Bone.—Immediately following the operation for subacute mastoiditis, Bunnell's patient presented a complete facial paralysis. Three months later the ends of the divided facial nerve, separated about 11 mm., were dissected free and reunited by fine silk sutures. Much resourcefulness was needed to bring the ends together.

Excision of Ulcer of Duodenum.—As a result of several years' experience with excision and partial duodenectomy, Judd and Nagel believe that, when it can be satisfactorily carried out, it has distinct advantages over gastro-enterostomy.

Etiology of Empyema.—Allen states that postoperative empyema in chests not previously infected may be the result of trauma to the pleura (mechanical), or drying and chilling. It may also be the result of a hemothorax. A total of 150 experimental observations are recorded. These experimental results indicate the important rôle played by the hemothorax, acquired during a thoracotomy, in the production of empyema following the operation. Hemorrhage into the pleural cavity can be controlled by careful attention to hemostasis before the pleural cavity has been opened and during the intrapleural procedures. This should be done. The early stages of idiopathic, streptococcal and pneumococcal empyemas usually show evidence of hemothorax. In view of these experimental data, the probability is evident that idiopathic empyema is engendered, in truth, by a preceding, spontaneous hemothorax. The clinical evidence for this probability is abundant.

Metastatic Thyroid Tumor.—Alessandri reports three cases. In two cases the thyroid gland did not show even the slightest change or enlargement before the onset of the skeletal growth, during its development or after the operations, which in both cases had to be repeated because of recurrences. Nothing which could possibly represent the primary site of an eventual tumor whence the metastases might have proceeded could be detected in the regions of the neck or of the tongue, or in the mediastinum where aberrant thyroid glands are usually found.

Osteitis Deformans.—Van Hazel and Andrews suggest that the pathologic picture in these cases can be explained on the following basis: As the result of some disorder in metabolism, probably a hypersecretion of the parathyroid gland, there is an increase in the permeability of the tissues which entails an inability of the osseous structures to retain the calcium. Calcium can pass freely from a bone to the blood or vice versa, and in consequence very much of it is lost in the urine. These cases all show a positive calcium balance. The pathologic picture in the bone is an attempt of the normal bone forming tissue to strengthen the bone, and the hypertrophic bone similarly fails to undergo proper calcification. For that reason growth continues, producing the syndrome of large, soft, decalcified bones.

Maternal Obstetric Sciatic Paralysis.—Kleinberg's patient was a primipara. The labor was terminated by instrumentation and a great deal of trauma. The disturbance arose from the fact that though the fetal head was normal, the pelvis was contracted and abnormally small. The symptoms were bilateral but were more marked on the left side. The early symptoms indicated a pressure on the lumbosacral cord similar to the crutch paralysis in the upper extremity. There has been practically complete recovery.

Point in Technic of Supravaginal Hysterectomy.—In a case cited, Cullen passed a mattress suture through the cervix and tied it, thus blocking the cervical canal above the point of amputation.

Use of Brominized Oil in Diagnosis of Lung Lesions.—Iglauer points out that brominized oil is less irritating than iodized oil and future experience may show that its use is to be preferred especially in tuberculous patients. Injected iodized oil is of considerable value in the diagnosis of pulmonary abscesses, fistulas, tumors, and pleural effusions.

Correction of Saddle Nose.—The ideal method, in Roy's opinion, for the correction of depressed nasal deformities consists in making an internal incision, and after having prepared a tunnel, inserting a piece of the cartilage of the first floating rib. When the graft is placed in position, the application of two little bands of adhesive transverse to the nasal bones would have the effect of fixing it, and consequently offer better conditions for adhesion with the surrounding tissues. Carried out in this manner, the operation will give greater chances of success than any other method.

Repair of Crucial Ligaments of Knee.—Eikenbary uses two strips of fascia lata to make two new crucial ligaments. They are passed through drill holes made in the femur and tibia in proper places.

Tennessee State Med. Assoc. Journal, Nashville

20: 69-110 (July) 1927

Neuroses in Institutional Tuberculosis. R. S. E. Murray, Toronto.—p. 69.
Periodic Health Examination. W. C. Dixon, Nashville.—p. 76.
Pollen Sensitization. H. Spitz, Nashville.—p. 78.
Proper Management of Placenta Praevia. C. Hendley, Paris.—p. 82.
Otorhinologic Infections as Etiologic Factor in Diseases of Children. M. F. Arbuckle, St. Louis.—p. 85.

West Virginia Medical Journal, Charleston

23: 337-392 (July) 1927

Truth About Syphilis. R. Ruedemann, Jr., Dayton, O.—p. 342.
Service with Devotion. F. L. Hupp, Wheeling.—p. 349.
Diagnosis of Heart Disease. B. S. Parks, Parkersburg.—p. 354.
Use of Insulin. R. D. Roller, Jr., Charleston.—p. 361.
Tuberculosis or Syphilis of Spleen and Liver. B. Banks, Charleston.—p. 363.
Perforated Duodenal Ulcer; Obstruction of Sigmoid Flexure. B. F. Brugh, Montgomery.—p. 364.
Atherosclerosis. W. R. Laird and M. C. Borman, Montgomery.—p. 365.
Acidosis Due to Ptomaine Poisoning. M. Gadosh, Wheeling.—p. 367.
Typhoid Fever Complicated by Malaria. W. P. Bittinger, Richwood.—p. 368.
Puerperal Sepsis Presenting Symptoms of Suprarenal Insufficiency and Tetany. W. D. Simmons, Slab Fork.—p. 368.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

50: 113-273 (June) 1927

*Significance of Flexor Posture of Upper Limb in Hemiplegia; Quadrupedal Extensor Reflex. W. R. Brain.—p. 113.
Methods of Examining Conditioned Food Reflexes in Children and in Mental Disorders. A. G. Ivanov-Smolensky.—p. 138.
Forced Grasping and Groping. W. J. Adie and M. Critchley.—p. 142.
*Subcortical Epilepsy. W. G. Spiller.—p. 171.
Microcephaly and Diffuse Gliosis: Four Cases. W. Freeman.—p. 188.
Electrical Skin Resistance and Psychogalvanic Reflex in Case of Unilateral Sweating. C. P. Richter.—p. 216.
Arterial Supply of Cerebral Cortex in Man. J. L. Shellshear.p. 236.

Significance of Flexor Posture of Upper Limb in Hemiplegia.—The gibbon employs its long fore-limbs in the manner of a tight-rope walker to preserve its balance. This is the gait of an animal comparatively ill adapted to an erect posture. The anatomic changes that have taken place in the course of evolution from the hylobatian to the human being have been in the direction of making a stable, erect posture possible with a minimum of muscular work. There is no necessity for man to use his arms for balancing except when he slips. This increased stability in the erect posture is in process of attainment in the giant anthropoids. May we not suppose, asks Brain, that the plantigrade stage in human evolution was reached with the development of a giant anthropoid that was able to stand erect with arms, now required neither for balance nor support, in the flexor resting posture? If this view is justified, a possible explanation has been found of the association in hemiplegia of the flexed upper with the extended lower limb. This, it is suggested, is the primitive human standing attitude.

Subcortical Epilepsy.—Two cases in which prominent symptoms were brief tonic spasms of both hands and one lower limb in one case, and of one upper and one lower limb on the same side in the other, are reported by Spiller. In these two cases the tonic spasms affected only one lower limb, but Spiller does not believe that in all similar cases only one lower limb will be implicated. These tonic spasms, without any clonic element, were brought on by voluntary movement of the affected limbs in both cases, but in one case could be produced by passive movement. In both cases the tonic spasms were associated with paresthesia predominantly of a hot or burning character in the lower limb unaffected by spasm, developing simultaneously, and disappearing simultaneously with the tonic spasms of the other lower limb.

British Medical Journal, London

2: 47-86 (July 9) 1927

Important Early Symptoms in Diseases of Breast. G. L. Cheatle.—p. 47.
Acromegaly from Surgical Standpoint. H. Cushing.—p. 48.
Rational Basis for Tuberculin Therapy. F. M. Pottenger.—p. 55.
*Phenol Saturation in Treatment of Certain Types of Streptococcal Blood Infection. T. S. Wilson.—p. 57.
*Two Cases of Hydatid Disease of Pleura. F. M. Rose.—p. 58.
Generalized Pneumococcal Infection: Rapid Death. J. B. Alexander.—p. 59.
*Death from Quinine Poisoning. H. M. Raven.—p. 59.
Pregnancy Alternating in Horns of Uterus Didelphys. J. L. Davies and C. J. Cellan-Jones.—p. 59.

Phenol Saturation in Streptococcemia.—Wilson directs attention to the clinical possibility of introducing phenol into the body in such large amounts that the growth of streptococci in the circulating fluids is thereby arrested and the patient cured. In his hands this method has proved efficacious in streptococcal infections after scarlet fever and those accompanying rheumatic fever, as well as other types of infection. Sodium sulphocarbolate is the drug used. The dose necessary to produce this degree of saturation is from 20 to 25 grains (1.3 to 1.6 Gm.) every two hours, in the case of an adult, or an adolescent of 16 or more, and in the case of a child of from 8 to 10 years a dose of from 8 to 10 grains (0.5 to 0.65 Gm.) every two hours. Carboluria has never been observed by Wilson, even in cases in which an adolescent continues to take 20 grains (1.3 Gm.) of sodium sulphocarbolate every two hours for three months or more.

Hydatid Disease of Pleura.—Rose stresses the point that both his patients were spinners. One had a dog, the other did not. A blood examination of both cases failed to reveal eosinophilia.

Death from Quinine Poisoning.—In order to insure sleep, Raven's patient, aged 50, had taken a large number of tablets of quinine. It is estimated that she took forty-eight 5 grain (0.3 Gm.) tablets of quinine bisulphate, presumably continuously during the night. The postmortem examination did not reveal signs of organic disease.

J. Obstet. & Gynec. of British Empire, Manchester

34: 185-468 (Summer) 1927

*Treatment of Acute Gonorrheal Salpingitis. A. Bourne.—p. 185.
Expectant Treatment of Pelvic Inflammation. B. Whitehouse.—p. 190.
Surgical Indications in Treatment of Gonorrheal Lesions of Uterine Adnexa. A. H. Curtis.—p. 199.
Operative Treatment of Chronic Salpingo-Oophoritis. S. J. Cameron.—p. 206.
*Conservation of Ovarian Function in Surgical Treatment of Salpingitis. W. B. Bell.—p. 212.
End-Results of Salpingostomy in Chronic Salpingitis, with Special Regard to Pregnancy. B. Solomons.—p. 218.
Cancer Problem in Gynecology. W. P. Graves.—p. 224.
*Dosage and Action of Pituitary Extract and of Ergot Alkaloids on Uterus in Labor: Action of Epinephrine. A. Bourne and G. H. Burn.—p. 249.
Deep Roentgen-Ray Treatment of Nonmalignant Gynecologic Conditions. L. L. Cassidy.—p. 273.
Recurrent Pregnancy Toxemia. J. Young.—p. 279.
Radium in Treatment of Advanced Carcinoma of Cervix. G. I. Strachan.—p. 291.
Pathologic Forms of Corpus Luteum. W. Shaw.—p. 300.
*Pregnancy Complicated by Cardiac Disease. R. A. Lennie.—p. 331.
Relationship of Pediatrician to Obstetrician. N. B. Capon.—p. 345.
Case of Melanoma of Vulva. E. Maclean.—p. 349.
Case of Interstitial Pregnancy at Term. A. L. McIlroy.—p. 355.

Treatment of Acute Gonorrheal Salpingitis.—Bourne advocates early operative treatment for the severe cases of acute suppurative salpingitis. The operation of choice is salpingostomy, but great care should be taken not to leave a fallopian tube that can obviously never perform its function. During convalescence the uterus should be treated by frequent injections of glycerin and strong silver protein. After convalescence, final assurance should be made that the cervix and urethra are free from gonococci.

Conservation of Ovarian Function.—Bell believes that it is possible in many cases of salpingitis, if due consideration is given to the preservation of the blood supply, to conserve the ovary in the normal or in an adjacent position—such as in the wall of the uterus, in which case pregnancy is possible. By the conservation of the ovary with its blood supply, the internal secretion and menstruation are always preserved. When it is impossible or unwise to conserve the ovary with its blood supply, autoplastic grafting should be practiced in women under 40 years of age.

Effect of Solution of Pituitary in Labor.—Bourne and Burn have investigated the action of small doses of solution of pituitary administered during the first and second stages of labor. A dose of two units may be expected to produce an effect that should be useful in hastening the course of a sluggish labor, provided it is not administered before the os is about half dilated. A dose of two units may be given with safety at any stage, provided there is no mechanical obstruction. The least interval at which any dose can be usefully repeated is one hour, but often the effect of two units has lasted longer than this. The action of the separate ergot alkaloids has also been examined. It has been found that tyramine has no value in obstetrics. Histamine in a dose of 2 mg., when injected under the skin, produces a powerful but short lived effect; it appears to exhaust the uterine activity. The specific alkaloid of ergot (ergotamine or ergotoxin) exerts a very prolonged action, and appears to be an ideal agent for use after delivery. Extractum Ergotae Liquidum B. P. does not contain the specific alkaloid, and in view of the authors' results cannot have a therapeutic effect. Epinephrine, injected into a vein, inhibits uterine contraction before delivery. The administration of ether has a similar effect.

Pregnancy Complicated by Heart Disease.—Of eighty-six cases analyzed by Lennie, the greatest number showed loss of

compensation in the earlier pregnancies, especially the first (nineteen) and second (seventeen), in which the figures are approximately double that of the third (nine) pregnancy. There was a greater tendency for loss of compensation to occur in primigravidas after midterm, and four patients went to the eighth and four to the ninth month before showing urgent symptoms. With secundigravidas the position was reversed, nine showing distress by the fifth month, as against seven in the second half. In the third pregnancy the onset of breakdown was fairly uniform. Of the total who died (five), four died during their third pregnancy or labor. In the fourth pregnancy, compensation was lost in all cases before the ninth month. The tendency to breakdown, however, occurred in the second half. In the fifth pregnancy, compensation was lost in all instances by the sixth month, and of the six patients, three had premature labor and one had induction of miscarriage performed. In the seventh and eighth pregnancies, three patients did not experience urgent symptoms until they were near term. No patients with nine or more pregnancies went to term. Of the cardiac lesions complicating pregnancy, mitral stenosis is most to be feared, fifty-seven women suffering from this disease. Of fifty-seven cases of stenosis (including double mitral lesions), distress appeared in twenty-nine cases by the end of the fifth, and in forty-one cases by the end of the sixth, month. Only three patients of the fifty-seven with stenosis actually went to term without showing definite cardiac symptoms. Of the four patients with a double mitral and aortic lesion, one broke down at the fourth month, one at the sixth month, and two were not distressed until the eighth month. In the patients with mitral regurgitation, three out of seventeen showed urgent symptoms by the end of the fourth month, but the greater proportion were not distressed until the second half, and five went to term. In myocardial mischief, urgent symptoms were of late onset in three out of the four cases. Of the eighty-six patients, fifty-seven had stenosis, and of these, twenty-eight had definitely suffered from rheumatic fever. Results obtained from induction of labor by bougies are disastrous, the death rate being no less than 44 per cent. On the other hand, the results obtained from abdominal section have been exceptionally promising. Of the seventeen cases in this category there were only two fatalities. All these patients were in an extremely grave condition.

Journal of Physiology, London

63: 97-200 (July 7) 1927

Movements of Alimentary Canal: I. Effects of Electrolytes on Rhythmic Contractions of Isolated Mammalian Intestine. H. E. Magee and C. Reid.—p. 97.
Lactic Acid Maximum of Cardiac Muscle. D. Arning.—p. 107.
Fatigue, Retention of Action Current and Recovery in Crustacean Nerve. A. Levin.—p. 113.
Effect of Frequency of Stimulation on Heat Production of Nerve. R. W. Gerard, A. V. Hill and Y. Zotterman.—p. 130.
Stretch Reflex as Spinal Process. D. E. Denny-Brown and E. G. T. Liddell.—p. 144.
Epinephrine and Splanchnic Nerve. S. Vincent and F. R. Curtis.—p. 151.
Physiologic Significance of "Phosphagen." P. Eggleton and G. P. Eggleton.—p. 155.
Source of Error in Measurement of Circulation Rate by Henderson and Haggard's Method. H. Barcroft.—p. 162.
Adjuvant Action of Lactate Ion on Vasodilator Effect of Sodium Nitrite. B. Densham.—p. 175.
*Protracted Estrus Induced by Ovarian Extracts. R. Tuisk.—p. 180.
Initial Phase of Reflex Inhibitory Relaxation in Extensor Muscles. T. G. Brown.—p. 187.
Inhibitory Relaxations Evoked by Reflex Stimuli of Constant Intensity Acting Against Varied Magnitudes of Extensor Tone. T. G. Brown.—p. 197.

Protracted Estrus Induced by Ovarian Extracts.—Experiments with continuous injection of extracts of follicular fluid were made by Tuisk in castrated and uncastrated mice. It is concluded from these experiments that the mammal reacts with a continuous estrus when the threshold concentration of follicular hormones is maintained in the body continuously. The failure to obtain continuous estrus by injection of follicular fluid is to be explained by supposing that in the experiments conducted by the French investigators the threshold concentration of hormones was not maintained.

Journal of Tropical Medicine and Hygiene, London

30: 165-178 (July 1) 1927

*Treatment of Undulant Fever by Mercurochrome-220 Soluble. G. B. Ross and A. P. Martin.—p. 165.
Wassermann Reaction. H. B. Newham.—p. 171.
Aspects of Dengue Fever Prevention. F. G. Cawston.—p. 171.

Mercurochrome in Undulant Fever.—Ross and Martin report nine cases. In one case in which three injections of 12 cc. of a 2.5 per cent solution of mercurochrome-220 soluble was injected intravenously, in two doses at six day intervals, rapid and sustained improvement followed. In another case a total dose of 33 cc. of a 1 per cent solution, distributed in six doses at intervals of from five to seven days, produced no effect during a six weeks' period of observation. In a third case a total dose of 17 cc. of 1 per cent mercurochrome, in four doses at five day intervals, was also unproductive of results over a period of nine weeks. In cases in which mercurochrome was combined with other treatment, in one case a dose of 10 cc. of 2.5 per cent solution, augmented three weeks later by four doses of 10 cc. at weekly intervals, was followed by permanent recovery. In a second, vaccine treatment plus four doses of from 5 to 6 cc. of 1 per cent mercurochrome gave a similar result. Ross and Martin are convinced that there is no very visible proof that mercurochrome is likely to be of great value in the treatment of the disease.

Lancet, London

2: 1-52 (July 2) 1927

Visceroptosis. A. J. Walton.—p. 1.
Law and Ethics of Medical Confidences. Riddell.—p. 4.
Color Tests for Vitamin A. S. G. Willimott and F. Wokes.—p. 8.
Streptococcal Septicemia Treated with Streptococcal Antitoxic Serum. W. Sanderson, N. B. Capon and H. H. MacWilliam.—p. 12.
Infection of Nasal Sinuses in Relation to Insanity. J. G. French.—p. 13.
Hypertrophy of Papilla Foliata in Man. B. T. Rose.—p. 14.

2: 53-102 (July 9) 1927

*Pathogenesis of Sciatic Pain. V. Putti.—p. 53.
Visceroptosis. A. J. Walton.—p. 60. C'cn.
*Lactic Acid Milk as Routine Infant Food. J. A. Stephen and E. R. C. Walker.—p. 63.
Vertebral Fibrosis: "Cellulite" of Neck. H. Forestier.—p. 65.
*Case of Inguinal Hernia. W. B. Johnson.—p. 66.
Case of Pneumococcal Septicemia. A. L. B. Stevens.—p. 66.

Pathogenesis of Sciatic Pain.—Putti asserts that sciatic pain is symptomatic of vertebral arthritis, except in those rare cases in which it is a symptom of a neuritis of specific nature. Sciatica is a neuralgia caused by pathologic conditions of the intervertebral foramina, and especially of the intervertebral articulations. In other words, sciatica is a symptom of neurodocitis and lumbarthritis. For the terms rheumatic sciatica and idiopathic sciatica, the more precise and adequate one of arthritic or vertebral sciatica should be substituted. To treat the sciatica, it is necessary to treat the arthritis. The treatment of vertebral arthritis is based on the same principles as the treatment of all other arthritis of nonspecific origin; namely, active hyperemia and immobilization. When these two methods are inefficacious, it will be necessary to resort to a resection of the diseased articulations.

Lactic Acid Milk as Routine Infant Food.—Fifty infants were fed by Stephen and Walker with lactic acid milk as a routine food. They varied in age from 1 day to 6 months, and the results were satisfactory, comparing favorably with those obtained by ordinary methods of dilution feeding.

Unusual Inguinal Hernia.—Johnson's case was one of right inguinal hernia with acquired sac. At the neck of the sac, below the external ring, lay a loop of small intestine which was adherent to the sac wall. Attached to the loop by a broad pedicle, and completely filling the greater part of the sac, was a cyst containing 4¼ pints of brown semipurulent fluid (presumably infected blood clot). Below the hernial sac, at the bottom of the scrotal swelling and entirely separate from the sac, lay the testis, the tunica vaginalis containing a small hydrocele of clear, straw-colored fluid. The diagnosis appeared to lie between (1) a Meckel's diverticulum which had become shut off from the intestine and enlarged to its great size by repeated hemorrhages into its interior, or (2) a degenerated fibromyoma of the intestinal wall.

Schweizerische medizinische Wochenschrift, Basel

57: 633-656 (July 2) 1927

The Suprarenals and the Constancy of Blood Composition. R. Schweizer. —p. 633.
Blood Transfusion in Obstetrics and Gynecology. W. G. Deucher.—p. 636.
*Combination of Drugs. J. Aebly.—p. 640.
Histologic Criteria of Sensitiveness of Cancer to Rays. H. J. Kalberer. —p. 645.
*Heredity of Tumors in Man. F. Miche.—p. 646.
Hemostasis in Prostatectomy. R. Hoffmann.—p. 652.

Combination of Drugs.—Aebly discusses the mathematical principles of the integration of effects in combination of drugs. He concludes that Bürgi's "combination rule" deals only with a special, although important, case, but that its theoretical foundation was inadequate.

Heredity of Tumors in Man.—By comparing statistics of malignant and benign tumors with the predictions which can be derived from Mendelian rules, Miche concludes that the etiology of these tumors is purely hereditary and Mendelian. Their incidence apparently corresponds to a social dihybridism with independent segregation and without lethal factors, which would modify the statistical relations.

57: 657-680 (July 9) 1927

Change of Reactivity by Physical Treatment. N. Messerle.—p. 657.
Familial Club-Foot. P. Lauener.—p. 664.
*Determination of Sex. E. Jenny.—p. 666.
Quartz Lamp Run by Diathermy Apparatus. L. Blumer.—p. 667.
Isacen in Gynecology. H. Mentha.—p. 668.

Sex of Offspring and Ovary Involved.—By four necropsy reports on parturient women, Jenny shows the futility of the theory that sex may be determined by determining the side from which the impregnated ovum sprang (according to this hypothesis, the right ovary contains "male" ova and the left ovary "female" ova).

57: 681-704 (July 16) 1927

Wound Infection by Anaerobes. K. Brunner.—p. 681.
Paralysis of Trapezius. K. M. Walthard.—p. 688.
*Injections in Preparation for Chloroform Anesthesia. E. Frommel. —p. 694.

Injections in Preparation for Chloroform Anesthesia.—Frommel asserts that atropine may be useful in preventing the increased irritability of the vagus in the first stage of anesthesia and in preventing possible disturbances of conduction. Scopolamine and morphine do not exert much influence in this respect, but enhance the anesthetizing action of chloroform. He believes that both methods deserve attention in suitable cases. Too much faith is placed in more or less complicated apparatus for administering the anesthetic, and the pharmacodynamics of the anesthetic are too much neglected.

Policlinico, Rome

34: 1027-1062 (July 18) 1927

*Fever in Congenital Syphilis. G. Verrotti.—p. 1027.
Rupture of Uterus. V. Luccarelli.—p. 1033.
*Whooping Cough and Asthma. N. Ciancio.—p. 1034.
Reticulo-Endothelial System. G. Pergher.—p. 1035.

Fever in Congenital Syphilis.—Verrotti's observations show that protracted fever may be due to congenital syphilis. It may be mistaken for malta fever, tuberculosis, malaria or intestinal infection. The fever may occur comparatively late in life.

Whooping Cough and Asthma.—Ciancio publishes another case in which asthma ceased after an attack of whooping cough.

Riforma Medica, Naples

43: 625-648 (July 4) 1927

*Immunization Against Rabies. C. Fermi.—p. 625.
*Tenderness of Aorta and Iliac Arteries. D. Taddei.—p. 629.
Diffuse Sclerosis of Pulmonary Artery. E. Signorelli.—p. 631.
Continuous Fever in Malaria. M. Battaglia.—p. 635.
Enolism and Alcoholism. A. Ferrannini.—p. 644.

Immunization Against Rabies.—Fermi reports the favorable opinions that have been expressed by numerous prominent investigators on the advantages of his method (the main feature of which is the use of infected rabbit's brain treated with phenol).

Tenderness of Aorta and Iliac Arteries.—Taddei confirms Fantozzi's observations on the coincidence of the tenderness of the abdominal aorta with initial benign pulmonary tuberculosis (with a tendency to sclerosis).

Rivista di Clinica Pediatricia, Florence

25: 361-432 (June) 1927

Gastric Secretion in Infants. D. Moggi.—p. 361.
Congenital Malformations. D. Larini.—p. 384.
Symmetric Gangrene of the Skin. B. Trambusti.—p. 390.
*Treatment of Pneumococcus Empyema. C. Cocchi.—p. 410.

Treatment of Pneumococcus Empyema.—Cocchi utilized the lytic property of biliary salts on pneumococci in treatment of empyema in children, due to these micro-organisms. After aspiration of the pus and lavage of the pleural cavity with physiologic solution of sodium chloride, he injected, in infants, from 1 Gm. to 1.5 Gm. of sodium taurocholate in 10 cc. of physiologic solution of sodium chloride. He used 2 Gm. in the same quantity of the solvent in children aged 2 or 3 years. Not more than two or three lavages and injections were necessary. He states that he did not observe any toxic action from the biliary salt.

Anales de la Facultad de Medicina, Montevideo

12: 1-84 (Jan.-Feb.) 1927

*Tar Epithelioma. E. P. Lasnier.—p. 1.
Pneumothorax Pleurisy. A. Sarno.—p. 53.
Indirect Analysis. D. Giribaldo.—p. 59.

Tar Cancer in Rabbit.—Of forty-two rabbits treated by Lasnier with tar, according to Itchikawa's technic, all developed tumors. Only one (3.12 per cent), however, showed clinical and histologic characteristics of malignancy. Ten rabbits of the last series now have papillomatous growths, but it remains to be seen whether the nature of the tumors will change. In many cases of alleged spontaneous cure of tar cancer, the malignancy may be apparent, not real. Scarifications cause cancerization, but only at a certain stage of the hyperkeratosis. It is difficult to determine when this special moment has arrived.

Anales Soc. Mex. de Oftalmología, etc., Mexico City

6: 49-72 (March) 1927

*Contagious Conjunctivitis. E. Ramón.—p. 49.

Endemic Contagious Conjunctivitis.—In Monclova, Mexico, and neighborhood every year from the spring to the summer there appears a contagious conjunctivitis, which attacks both children and adults and perhaps domestic animals. There are fewer cases in dry years. Among 611 school children examined by Ramón in 1922, 184 were found infected. The micro-organism is a micrococcus rather similar to the pneumococcus. The disease is transmitted either directly by the discharge, the hands or other objects or perhaps by a local fly. When left untreated, the disease may last several months and even becomes chronic and causes complications.

Annaes Paulistas de Med. e Cirurg., São Paulo

18: 49-66 (March) 1927

*Blood and Spinal Fluid Pressure in Mental Diseases. J. Ferraz Alvim and F. Guerner.—p. 50.
Amebic Bronchitis. W. Haberfeld.—p. 51.

Arterial and Spinal Pressure in Mental Diseases.—Ferraz and Guerner studied the effect of the withdrawal of spinal fluid on arterial pressure in five patients with mental diseases. The results varied widely.

Archivos Lat.-Amer. de Pediatría, Buenos Aires

21: 325-391 (May) 1927

*Recurrence of Rheumatism. L. Morguio.—p. 325.
*Febrile Tertiary Syphilis. J. C. Navarro.—p. 332.
Infantile Apnea with Cyanosis. P. de Elizalde and P. R. Cervini. —p. 352.
Chronic Double Chorea. F. Bazán and S. Balestra.—p. 359.
Mixed Renal Tumors. J. Bacigalupo and M. J. Vergnolle.—p. 362.
International Institute of Child Welfare. V. Escardó y Anaya.—p. 366.

Recurrent Rheumatism with Heart Disease Following Use of Tetanus Antitoxin.—A girl, aged 10, had acute rheumatism

for three months. Three years elapsed without any functional trouble. Following a wound in the heel by a nail, tetanus antitoxin was given. A few days afterward, serum disease developed, followed by manifestations of articular rheumatism and serious cardiac and pleural changes. Under treatment by Morguio a subsidence was obtained. There remain, however, definite valvular lesions requiring continued treatment.

Febrile Tertiary Syphilis with Muscular Involvement.—A boy, aged 11, with a history of maternal syphilis, manifested meningeal symptoms. As these receded, signs of spinal involvement appeared. The family history suggested a trial of antisyphilitic treatment, including iodides. This succeeded in bringing about a complete apyrexia after three and a half months of continuous fever. All muscular pains and contractions also disappeared. Treatment is being continued in view of spinal changes and exaggerated reflexes.

Archivos de Medicïna Cirugía y Espec., Madrid

27: 29-56 (July 9) 1927

Emergency Surgery. A. Ferre.—p. 29.
Accidents in Antirabic Treatment. P. Remlinger.—p. 34.
*Jejunal Ulcer. L. Urrutia.—p. 48.

Postoperative Jejunal Ulcer in Spain.—Urrutia found in the Spanish literature reports of 229 secondary jejunal ulcers, 227 verified at operation and two at necropsy. About 25 per cent were purely jejunal, the remainder gastrojejunal. In three cases, acute perforation occurred. In only one case did partial peritonitis result because of a covered perforation. Jejunocolic fistula developed in 14.41 per cent of the cases. In 220 cases of gastro-enterostomy the primary operation was usually posterior. Jejunal ulcers seem to follow especially gastro-enterostomies done for perforated ulcer. They followed in 33 per cent of Urrutia's twelve perforated ulcer cases as compared to 4.2 per cent of his 238 gastro-enterostomies for other causes.

Boletín de la Soc. de Cirugía de Chile, Santiago

5: 69-80 (May 25) 1927

Echinococcus Cyst in Lung. R. Estéves and P. Valenzuela.—p. 69.
*Gangrenous Spot. M. Matus.—p. 75.
Diagnosis of Dislocation of Hip. F. Opazo.—p. 78.

Necrosis from Spider Bite.—A girl who was bitten by a spider (*Mygalea stephanis*) developed a large necrotic area on the arm. The most interesting part of the case to Matus is the local character of the condition, as contrasted with the general and even fatal evolution of lesions from bites by *Latrodectus formidabilis*. The process seems rather common and local to Chile.

5: 81-98 (June 8) 1927

*Traumatic Bone Infection. L. Sierra.—p. 81.

Trauma and Bone Infection in Chile.—Sierra considers it almost incredible that there should be proportionally as many bone fractures in Santiago as in large industrial centers in the United States. In 1925 and 1926, the annual number of such cases treated by the Public Assistance authorities exceeded 1,400, not including cases of dislocation.

Brasil-Medico, Rio de Janeiro

41: 541-568 (June 4) 1927

*Eye Diseases. Pereira Gomes.—p. 541.
Cancer. A. L. Pimenta Bueno.—p. 546. C'td.
Origin of Pediatrics. J. Martinho da Rocha.—p. 554.

Dental Origin of Eye Diseases.—In some forty cases seen by Pereira Gomes in about two years, the eye lesion, usually retinitis or choroiditis, had as its cause a dental infection. The route followed by the infection may be direct through the bones, periosteal, hemolymphatic or irritative-reflex. Diagnosis, however, must be made very cautiously in such cases and only by exclusion.

41: 693-716 (July 9) 1927

*Abuses of Hypodermic Injections. J. de Mendonça.—p. 693.
Cancer. A. L. Pimenta Bueno.—p. 694. C'td.
Brocq's Pseudopelada. H. P. Ribeiro.—p. 698.

Abuse of Hypodermic Injections.—Mendonça has seen a number of cases of sclerosis, cyst, scar tissue and even rebellious sinus following the indiscriminate use of hypodermic injections. Insoluble drugs and all agents liable to necrose tissue should be excluded from hypodermic use. Strict asepsis, avoidance of repeated injections in the same area and waiting until disappearance of irritation symptoms before repeating an injection should never be neglected. In thin persons, the needle should be at least 3 cm. long, and in fat patients, at least 5 cm.

Crónica Médica, Lima, Peru

44: 65-96 (March) 1927

*Congenital Syphilis of Testis. L. Arias Schreiber.—p. 72.
Duodenal Drainage. E. Guzmán Barrón.—p. 76.
Child Welfare. A. Benavente Alcázar.—p. 85.
Diathermy. J. Voto Bernales.—p. 90. C'td.

Congenital Syphilis of Testis.—In Arias' case the typical course, frankly positive blood Wassermann, bilateral involvement, family history and especially the therapeutic response led to the diagnosis of late congenital syphilis of the testis with ulcerated gummatous lesions. Both testes were indurated, enlarged and deformed.

Medicina Ibera, Madrid

2: 1-28 (July 2) 1927

*Treatment of Erysipelas. J. Andréu Urra and V. Gonzalez Calvo.—p. 1.
*Uterine Prolapse. Bourkaibt and R. García Casal.—p. 5.

Treatment of Erysipelas.—Andréu and Gonzalez Calvo believe that their treatment shortens the course of facial erysipelas and prevents complications. Local treatment includes iodine, ichthyol and camphorated oil ointment; general treatment consists of intravenous injections or enemas of 100 cc. of a solution of an acridine dye.

Enormous Uterine Prolapse.—The uterine prolapse reported by Bourkaibt and García Casal was the largest seen by them in several hundred of such cases. The anteroposterior length was 41.5 cm. (16.5 inches) and the maximum horizontal circumference, 38 cm. (15 inches).

Prensa Médica Argentina, Buenos Aires

14: 117-160 (June 30) 1927

*Carcinoma of Lung. F. Strada.—p. 117.
Hannot's Hepatic Cirrhosis. M. R. Castex et al.—p. 122.
Hemolytic Enlargement of Spleen. P. M. Barlaro.—p. 133. C'td.

Primary Carcinoma of Lung.—Among 429 necropsies performed from 1914 to 1919, fifty-nine carcinomas (13.75 per cent) were found. Of these five (8.47 per cent) were primary tumors of the lung. Among 559 necropsies performed from 1920 to 1925, sixty-four carcinomas (11.46 per cent) were found. The primary pulmonary cases rose to twelve, i. e., 18.75 per cent. If all persons less than 21 years old are excluded from the statistics, it will be found that 361 and 479 necropsies, respectively, were held in the two periods, and that the percentages for carcinoma rise to 16.34 and 13.34, respectively. Among the seventeen pulmonary cases, only one patient was a woman.

Revista de la Asoc. Med. Argentina, Buenos Aires

40: 209-408 (May-June) 1927

*Insulin. J. A. Collazo and M. Dobreff.—p. 209.
Classification of Diabetes. P. Escudero.—p. 228.
Dystonia Musculorum Deformans. A. S. Marotta.—p. 257.

Insulin and Glands of External Secretion.—Collazo and Dobreff analyze experiments reported by others and their own to prove the influence of insulin on basal metabolism, water distribution, ions, diatases, superficial pressure and the colloidal condition of cells. Such phenomena do not proceed from one concrete cause. A number of cellular phenomena are involved. Their character is predominantly biochemical and they act reflexly on the glands of external secretion. Insulinization should be tried in controls treated with atropine. This method would paralyze the autonomic system and reveal the extrasecretory action of the insular hormone. There is no question as to the effect of insulin on glands of external secretion. The mechanism and details, however, are not yet known.

Revista de Medicina, Rosario de Santa Fe

2: 300-336 (June) 1927

*Cancer at Rosario. F. Sadi Fonso.—p. 300.
Creolin Cancer. A. G. Neumann.—p. 329.

Cancer in Argentina.—Sadi has studied the death rate from cancer at Rosario. In the last five years it has varied from a maximum of 9.27 (1924) to a minimum of 8.11 (1925) per 10,000 inhabitants. Out of 346 patients dead from cancer in 1926, 230 were foreigners. A similar condition prevails at Buenos Aires. Men predominate among the victims of the disease. The age group most affected is that from 50 to 60 years. As elsewhere, the organ most attacked is the stomach in men and the uterus in women. The second place is held by the liver and bile ducts in both sexes. Classified according to occupation, the highest death rate was among servants and workingmen.

Revista de la Soc. de Med. Interna, etc., Buenos Aires

3: 1-150 (May) 1927. Partial Index

Recurrent Syphilitic Meningitis. N. Romano and S. Rey.—p. 15.
Achondroplasia. S. G. Beyrne.—p. 22.
Oleothorax. R. A. Vaccarezza and F. E. Secco.—p. 43.
Gland Tests. R. Porak.—p. 59.
*Basal Metabolism in Acromegaly. M. R. Castex and M. Schteingart. —p. 66.
Gastric Tetany. C. Bonorino Udaondo.—p. 73.
Duodenal Fluoroscopy. M. R. Castex et al.—p. 79.
Pathogenesis of Uremia. C. P. Waldorp.—p. 94.
Pneumothorax and Tuberculin in Pulmonary Tuberculosis. J. J. Viton and J. Goyechea.—p. 130.

Basal Metabolism in Acromegaly.—Among seven patients with acromegaly (four women and three men), Castex and Schteingart found basal metabolism increased in three and normal in four. The largest increase was 31 per cent. Simple acromegaly, without change in the tubers or in the posterior lobe of the pituitary, causes increase in metabolism. The complicated type does not produce this effect.

Semana Médica, Buenos Aires

34: 1437-1496 (June 16) 1927. Partial Index

*Innervation of the Iris. M. Balado.—p. 1441.
Thrombosis of the Abdominal Aorta. T. Martini and M. Joselevich. —p. 1476.
Sebaceous Cyst of the Mesentery. F. Ciarlo.—p. 1480.
Vaccine Therapy. C. Ramos Mejia.—p. 1488.

Nerve Supply of the Iris.—Balado reviews thoroughly the literature as well as his own observations on the anatomy and physiopathology of the iris. Many illustrations are included to support his arguments. The iris has no ganglionic centers, such as those of Auerbach and Meissner in the intestine. There may be a few small nerve elements among the unstriped muscle fibers. Histologic technic has not at present any available method to identify such elements. Golgi's and Ehrlich's staining methods do not reveal the nervous character of a cell.

Archiv für Dermatologie und Syphilis, Berlin

153: 1-256 (April 23) 1927

Relations Between Lupus Erythematosus and Tuberculosis. G. Birnbaum.—p. 1.
Benign, Nonnevoid Melano-Epitheliomas of Skin. B. Bloch.—p. 20.
*Treatment of Severe Burns with Blood Transfusion. G. Riehl, Jr. —p. 41.
Idiosyncrasy to Iodine and Metabolism in Dermatitis Herpetiformis. C. Klepper.—p. 66.
Histology of Skin Epithelioma. S. Fuss.—p. 75.
Impetigo Herpetiformis in Nonpregnant Women. C. Tanimura.—p. 86.
Inflammatory Atrophy of Skin in Multiple Lipoma. H. Simon.—p. 90.
Erythema Induratum. A. Forster.—p. 99.
Reflexes from Intracutaneous Irritation. A. Straszyński.—p. 117.
Syphilis and Provocation. O. Dittrich.—p. 123.
Gonorrheal Infection of Accessory Ducts of Penis and Scrotum. S. Schoenhof.—p. 132.
Bilateral Nevi in Univitelline Twin. H. W. Siemens and P. J. Waardenburg.—p. 145.
Epidermolysis Bullosa Traumatica Hereditaria (Köbner). H. Fuhs. —p. 156.
Leukonychia Striata (Semilunaris) Arsenicalis. H. Hoffmann.—p. 169.
Arsphenamine Dermatitis. H. Kagelmann.—p. 173.
"Lymphogranuloma Inguinale." W. Frei and H. Hoffmann.—p. 179.
Action of Arsphenamine on Liver. E. M. Lewin.—p. 200.
Use of Calcium Chloride to Obviate Injurious Effects of Arsphenamine. E. M. Lewin.—p. 209.
Inheritance of Psoriasis. K. Fürst.—p. 212.
*Infectiousness of Syphilitic Cadaver. E. Zurhelle and R. Strempel. —p. 219.
Cerebrospinal Fluid in Syphilis of Skin or Mucous Membrane. L. Arzt and H. Fuhs.—p. 227.
Lichen Ruber Planus. H. G. Rottmann.—p. 232.
Leishmania Vaccine in Skin Leishmaniasis. M. Jessner.—p. 237.
Abderhalden's Reaction in Skin and Venereal Diseases. H. Rinck. —p. 248.
Addendum to "Verruca Senilis und Keratoma Senile." Freudenthal. —p. 256.
Addendum to "Turpentine Dermatitis." Perutz.—p. 256.
Recurrence of Fungous Diseases of the Scalp After Roentgen-Ray Treatment. P. Keller.—p. 256.

Treatment of Severe Burns with Blood Transfusion.—Riehl believes that blood transfusion is a valuable adjuvant in the treatment of severe burns. Thirty-two cases are described briefly. Ten patients, who without treatment would apparently have died, were cured. In eleven cases life was considerably prolonged. In only two did the treatment fail to benefit. The transfusion should be done as early as possible. The amount of the transfused blood in his cases was from 200 to 300 cc.

Capacity of Spirochaeta Pallida to Remain Alive and Virulent in Dead Tissue.—The possibility of infection with syphilis by the cadaver was demonstrated experimentally by Zurhelle and Strempel up to four days. The time would be longer in cadavers kept on ice, since decomposition tends to destroy the spirochetes. The virus may become attenuated and lead to symptomless infection, but the attenuation is not maintained in further inoculations.

Archiv für Gynäkologie, Berlin

130: 1-238 (April 20) 1927

*Anterior Lobe of Pituitary and Ovary. B. Zondek and S. Aschheim.—p. 1.
*Menstrual Cycle of Vaginal Mucous Membrane. K. Dierks.—p. 46.
*Blood Iodine in Menstruation and Pregnancy. F. E. Maurer.—p. 70.
Lipoids of Menstrual Blood. A. Hermstein.—p. 80.
Fat Metabolism of Corpus Luteum. C. Kaufmann and K. Raeth.—p. 128.
Tubal Menstruation. W. Lahm.—p. 152.
Motor Nerve Supply of Fallopian Tube. F. Kok.—p. 173.
Wassermann Reaction in Obstetrics. H. Baumm.—p. 192.
*Biology of Cerebrospinal Fluid. E. Vogt.—p. 205.
Residua of Primary Lesion of Portio. H. Hinselmann.—p. 212.
Influence of General Anesthesia on Contractile Power of Puerperal Uterus. H. Franken and H. Schlossmann.—p. 215.
Length of Mature Fetus. E. Wehefritz.—p. 221.
Interfereometric Prediction of Sex. A. Streck.—p. 226.

Anterior Lobe of Pituitary and Ovary.—Zondek and Aschheim implanted various tissues, including those of the endocrine glands, other than the ovary, and injected various body fluids, etc., into castrated female mice, but failed to obtain estrus. They conclude, therefore, that the ovarian hormone is produced only by the ovary. (The placenta appears to be an exception.) Feeding human thymus did not inhibit the ovarian cycle. Repeated implantations of thymus did not prevent, but, perhaps, exerted a slight inhibitive influence of the ovarian cycle. Bilateral suprarenalectomy did not influence the ovarian cycle. Attempts to stimulate the establishment of the sex function in immature female mice by feeding or implantation of thyroid, thymus or pineal body, by injection of epinephrine or implantation of suprarenal cortex or medulla, the testis or the posterior lobe of the pituitary, and by injection of an extract of this lobe, failed. When, on the other hand, a piece of the anterior lobe of the pituitary, of human or animal origin, was implanted in a mouse, estrus developed in from eighty to 100 hours. The gland of a male animal was as effective as that of a female animal. The hormone was found to be present in the anterior lobe of the pituitary of the woman after as well as before the menopause. This hormone appears to be the motor of the sex function. It starts the follicular apparatus working, ripens the follicles and mobilizes the ovarian hormone in the follicular cells. The ovarian hormone acts specifically on the uterus and vagina.

Normal Menstrual Cycle of Human Vaginal Mucosa.—The vaginal mucous membrane of thirty women was examined histologically by Dierks at various periods of the menstrual cycle. Periodic degeneration and regeneration were determined.

Iodine Content of Blood During Menstruation.—Maurer found a considerable increase in the iodine of the blood during menstruation, during the last three months of pregnancy and during labor. As soon as birth has taken place, it drops to a level far below the normal. This observation, taken in connection with the physiologic changes in the thyroid in pregnancy and menstruation, strengthens the hypothesis of the thyrogenous origin of blood iodine.

Biology of Cerebrospinal Fluid.—Vogt found that both the Wassermann and the Sachs-Georgi reactions were always negative in the cerebrospinal fluid of pregnant and parturient women who were not infected with syphilis.

Archiv für klinische Chirurgie, Berlin

144: 489-791 (April 11) 1927

Osteogenetic Capacity of Periosteum. B. Martin.—p. 489.
Histology of Extramucous Pyloromyotomy. A. Kortzeborn.—p. 531.
*Operation for Appendicitis in Childhood. A. Nehrkorn.—p. 559.
*Autohemotherapy. S. Hoffheinz.—p. 567.
Total Extirpation of Stomach. E. Uhlhorn.—p. 593.
Postoperative Peptic Ulcer of Small Intestine. A. P. Popow.—p. 612.
*Postoperative Massive Collapse of Lung. G. Halperin.—p. 626.
General Factors in Process of Cure. M. J. Lorin-Epstein.—p. 632.
Chronic Stenosis of Small Intestine. S. Judin.—p. 667.
Indirect Subcutaneous Rupture of Biceps. J. Vigyázó.—p. 679.
Biology of Fracture Healing. E. Schneider.—p. 689.
Operative Treatment of Congenital Cleft Palate. G. Tschmarke.—p. 697.
Bilateral and Unilateral Raised Scapula. A. Gottesleben.—p. 723.
Hermaphrodism; Surgical Treatment. J. A. Goljanitzki.—p. 732.
Changes in Liver and Gallbladder in Chronic Cholecystitis Without Stone. I. Genkin.—p. 752.
Biology of Transplantation. E. Kubányi and M. Jakob.—p. 767.

Operation for Appendicitis in Childhood. — Nehrkorn reviews 112 cases of acute appendicitis in children. In children the course of the disease tends to be more rapid than in adults and the general intoxication more quickly reaches the point at which any operation is a grave risk. The child's peritoneum, on the other hand, possesses a greater capacity to react against the rapidly spreading infection and the tendency to encapsulation of the suppurative focus is strong. Early diagnosis and early operation constitute, of course, the ideal management.

Autohemotherapy.—Hoffheinz believes that autohemotherapy exerts an important therapeutic influence in postoperative pneumonia, gonococcic inflammations of joints and solitary furuncles. Of twenty-six cases of postoperative pneumonia thus treated, the results were good in fourteen. In six cases transient good effects were seen. The most remarkable effect was observed in regard to the fever. Next in importance was the improvement in the general condition and in the expectoration. The dose injected, intramuscularly, need not be larger than from 40 to 50 cc.

Postoperative Massive Collapse of Lung.—This condition most often follows operations on the abdomen, appearing most frequently on the second or third day, although it has been seen a few hours after operation. The onset is usually slow, without marked subjective symptoms. There is a moderate rise in temperature and in the rapidity of the pulse, hardly noticeable dyspnea and slight cough. The affected side of the thorax is contracted and immobile and the intercostal space is narrowed, while the pulmonary signs are similar to those of consolidation. The most characteristic symptom is displacement of the heart toward the collapsed side. The prognosis is favorable. The usual time required for the lung to refill with air is about ten days. Halperin suggests as preventive measures systematic breathing exercises after all operations and the abandonment of the practice of applying adhesive plaster strips tightly around the abdomen and lower thorax after laparotomies.

Archiv für Verdauungs-Krankheiten, Berlin

40: 313-468 (June) 1927

*Action of Atropine on Function of the Stomach. H. Kalk and P. Siebert.—p. 313.
Transient Acholia. M. Einhorn.—p. 329.
Coffee and Evacuation Time of the Stomach. A. Bickel et al.—p. 334.
Postoperative Jejunal Ulcer. L. Urrutia.—p. 339.
*Differentiation of Neutral Fat and Fatty Acids. W. Heupke.—p. 357.
Fasting Secretion of the Stomach. J. Vándorfy.—p. 364.
*Activation of Gastric Contents by Serums. K. Gerner.—p. 373.
Gastric Secretion in Chloralose Anesthesia. A. Elkeles.—p. 380.
Significance of Chlorides in Gastric Contents. A. J. Mirkin et al.—p. 393.
Estimation of Total Evacuation and Secretion of the Stomach. A. E. Lewin.—p. 405.
Internal Treatment in Diseases of the Liver and Biliary Passages. N. Anschel.—p. 413.
Foreign Bodies in a Child's Esophagus. L. Schlager.—p. 430.
Insulin by Mouth. C. Katsube.—p. 433.

Action of Atropine on Function of the Stomach. — The action of atropine and of another preparation of belladona were tested by Kalk and Siebert in sixty-six experiments on twenty-seven subjects. The amount of fluid and of chlorides was as a rule lowered, the acidity was frequently increased. Therapeutically atropine affects the tonus and motility, rather than the secretion of the stomach.

Differentiation of Neutral Fat and Fatty Acids in Feces.—Heupke adds one or two drops of a saturated solution of copper nitrate to a small piece of the feces and stirs the mass on a slide with a match. Then he heats the slide above a small flame, until bubbles begin to form. One drop of a 0.25 per cent alcoholic solution of dimethyl-amino-azobenzene is added, and the preparation is ready for microscopic observation. The soaps are of a brilliant green color, while the neutral fat stains yellow. If it stains red, a drop of alkali will change the color.

Activation of Gastric Contents by Serums.—Gerner—following Einstein—mixed diluted gastric contents with blood serum and a phosphate buffer (p_H 7.0) and incubated the mixture with a piece of fibrin. After five or six hours he rinsed the fibrin with water and transferred it to a twentieth normal solution of hydrochloric acid. To his surprise the treatment with the serum seemed to enhance the peptic digestion of the fibrin. He believes that the resistance of the gastric mucous membrane to the action of pepsin depends on the ratio between the inhibitory and activating factors contained in the blood.

Biochemische Zeitschrift, Berlin

185: 229-482 (June 9) 1927. Partial Index

*Diabetic Serum and Permeability of Cells. E. Bissinger.—p. 229.
Vitamin A Content of Skimmed Milk. J. B. Platon.—p. 238.
Distribution of Lactic Acid Between Different Mediums. R. Dietzel and E. Rosenbaum.—p. 275.
*Changes in Liver from Low Air Pressure. A. Loewy.—p. 287.
Optimum Dosage of Active Ferric Oxide. G. Rosenkranz.—p. 320.
Inhibition of Ptyalin by Tartar Emetic. J. A. Smorodinzew and F. E. A. Iliin.—p. 328.
Unity of Blood Enzymes? M. F. von Falkenhausen.—p. 334.
*Colorimetric Estimation of Magnesium. J. M. Kolthoff.—p. 344.
*Nondextrose Fraction. B. Sjollema.—p. 355.
Sugar of Capillary and Venous Blood After Exertion. M. Dörle and W. Liehr.—p. 365.
Colorimetric Determination of Oxygen Saturation of Blood. J. Holló and S. Weiss.—p. 373.
Sulphuric Acid-Oxyamino-Acid Compound. S. Fränkel and C. Jellinek.—p. 379.
*So-Called Carbohydrate Group of Proteins. S. Fränkel and C. Jellinek.—p. 392.
Hagedorn-Jensen Microdetermination of Sugar. E. Martinson.—p. 400.
Iodine Content of Plants. K. Scharrer and J. Schwaibold.—p. 405.
Cholesterol Metabolism and Reticulo-Endothelial System. F. Goebel and H. Gnoiński.—p. 414.
Hagedorn-Jensen Microdetermination of Sugar. L. Csik and A. Juhász.—p. 420.
Iodine Starch Reaction. M. J. Gramenitzki.—p. 427.
Temperature and Oxidizing Property of Ferric Chloride. M. J. Gramenitzki.—p. 430.
Change of Enzymatic Property. M. J. Gramenitzki.—p. 433.
Sugar Consumption by Surviving Heart of Cat. G. Ambrus.—p. 442.
Sugar Consumption of Heart as Function of Body Surface. Z. Aszódi.—p. 450.

Diabetic Serum and Permeability of Cell.—The lowered sugar intake of livers perfused by serum from diabetic patients was confirmed by Bissinger. He found, however, that such livers contain more free sugar than could be accounted for by the intake from the perfusing fluid. He concludes that this lowering of the diffusion gradient from the blood vessels to the cells accounts for the inhibition observed better than does the assumption of a lowered permeability of the cells.

Changes in Liver from Low Air Pressure.—Loewy and Cronheim found fatty infiltration and lack of glycogen in the livers from rats and guinea-pigs kept at a low atmospheric

pressure (250 mm. of mercury, corresponding to an altitude of 8,500 meters). They attribute the change to acidosis. The uric acid content of the blood and the urobilinogen content of the urine increased. The temperature of the body decreased—in analogy to the low temperatures observed in grave insufficiency of the liver.

Colorimetric Estimation of Magnesium.—Kolthoff determines minute amounts of magnesium by its reaction with Titan-yellow (acridine yellow). He adds 0.2 cc. of a 0.1 per cent solution of the indicator to 10 cc. of the fluid to be tested and adds from 0.25 to 0.5 cc. of a four times normal sodium hydroxide solution. The reaction reveals as little as 0.2 mg. of magnesium per liter. Calcium enhances the depth of the color; aluminum, tin and zinc must be removed.

Nondextrose Fraction.—Sjollema's method is based on the observation that dextrose—differing from lactose and mannose—is not adsorbed by charcoal if the solution contains 0.5 per cent or more of acetic acid. Ether prevents the adsorption of the disaccharids. It is not impossible that the nondextrose fraction of the reducing substances of the blood, which is found chiefly in the erythrocytes, is not a carbohydrate. He investigated the changes of these fractions in various conditions.

So-Called Carbohydrate Group of Proteins.—Fränkel and Jellinek isolated a compound of glucosamine with mannose from proteins. The amino-group of the former substance is bound. The presence of mannose explains the alpha naphthol reaction of proteins, which is absent in chitin. Their results are also the first evidence of the presence of mannose in animals.

186: 337-492 (July 4) 1927

Wheat Starch. M. Samec.—p. 337.
Plasmalogen in Animals. K. Imhäuser.—p. 360.
Fermentation of Sugar and Pyruvic Acid. A. Lebedew.—p. 376.
Constitution of Cell Membrane on Basis of New Method of Determining Surface Tension. S. Mudd and E. B. H. Mudd.—p. 378.
Reticulo-Endothelial System and Metabolism of Lipoids. S. Leites.—p. 391.
*Hygroscopic Properties of Ordinary and Charred Cotton. S. W. Gorbatscheff and E. N. Winogradowa.—p. 413.
Physical Condition, Nutrition and Fragility of Erythrocytes. G. Petrányi.—p. 419.
*The Spleen in Metabolism of Fats and Lipoids. S. Leites.—p. 436.
*The "Oxidation Quotient." H. Müller.—p. 451.
Respiration and Fermentation of Green Plants. L. Genevois.—p. 461.
Nitrogen Content of Aspergillin. A. Rippel and K. Walter.—p. 474.
Vital Staining and Adsorption. H. A. Krebs and D. Nachmansohn.—p. 478.
Chromates as Standards in Colorimetry. H. Jørgensen.—p. 485.

Hygroscopic Properties of Ordinary and Charred Cotton.—Gorbatscheff and Winogradowa found that charred cotton is much more hygroscopic than ordinary absorbent cotton. Consequently it might be preferable to the latter for use in dressings.

The Spleen in Metabolism of Fats and Lipoids.—Leites concludes that the spleen plays a considerable rôle in the metabolism of cholesterol and neutral fat.

The "Oxidation Quotient."—Müller uses the term "vacat oxygen" to designate the amount of oxygen necessary for complete oxidation of a substance. The term "oxidation quotient" designates the ratio between the nitrogen content of a substance and the corresponding "vacat oxygen." He shows why this quotient is for several reasons preferable to the determination of the carbon-nitrogen ratio, and describes a comparatively simple method of estimating it.

Deutsches Archiv für klinische Medizin, Leipzig

155: 257-380 (June) 1927

*Prognosis of Epidemic Encephalitis. H. Dennig and R. Voellm.—p. 257.
*Carbohydrate Metabolism in Diphtheria. A. Elkeles and F. Heimann.—p. 263.
Regional Distribution of Asthma. K. Tiefensee.—p. 270.
Test for Vitality of Leukocytes. E. von Philipsborn.—p. 281.
Ventricular Wave of the Electrocardiogram. F. Herzog.—p. 294.
*Asthma and Its Treatment. C. Römer and A. Kleemann.—p. 307.
Estimation of Urobilinogen. A. Adler and M. Bressel.—p. 326.
Micro-Observations on Secretion of Sweat. E. Jürgensen.—p. 342.
Diagnostic Significance of Serum Lipases. A. Kobryner.—p. 353.
Flexner's Book on Medical Education. L. Krehl.—p. 360.

Prognosis of Epidemic Encephalitis.—Checking up on their patients with chronic encephalitis, Dennig and Voellm conclude that those who are in good condition from one to four years after the onset of the disease have a good chance to remain so. Those whose disturbances are more serious, usually become worse. They noted that the patients are greatly influenced by their surroundings. If they are left to themselves, they deteriorate mentally.

Carbohydrate Metabolism in Diphtheria.—Elkeles and Heimann observed hypoglycemia only exceptionally in grave diphtheria. Most of the children had a moderate hyperglycemia and the blood sugar curve after administration of from 10 to 20 Gm. of dextrose resembled the curve observed in diabetes. One of the children had more than 0.4 per cent of blood sugar, but no glycosuria before death. They believe that the hypoglycemia in animals poisoned with the toxin is due to the large dose administered at one time.

Asthma and Its Treatment.—Römer and Kleemann believe that asthma may frequently be cured by psychotherapy.

Deutsche medizinische Wochenschrift, Berlin

53: 1207-1246 (July 15) 1927

Neuroses. A. Goldscheider.—p. 1207. C'td.
*Prognosis of Syphilitic Mesaortitis. J. Heller.—p. 1211.
*Incontinence of Urine in Women. L. Casper.—p. 1212.
*Atypical Tonsillitis. W. Schultz.—p. 1213.
Campaign Against Rickets. W. Grumach.—p. 1214.
Microdetermination of Blood Sugar. H. Citron.—p. 1216.
Treatment of Coryza in Infants. S. Engel.—p. 1217.
Hoarseness; Treatment. G. Finder.—p. 1217.
Treatment of Deafness. Schlittler.—p. 1221.
Diet for Dystrophic Infants. E. Rominger.—p. 1223.
*Streptococcus Serum in Grave Diphtheria. H. Finkelstein and E. Koenigsberger.—p. 1227.
Treatment of Intestinal Dyspepsia in Tuberculosis. E. Paulsen.—p. 1228.
First Aid Dressing. H. Praetorius.—p. 1230.
Suicide in Women. W. Hanauer.—p. 1231.

Prognosis of Syphilitic Mesaortitis.—The probability of mesaortitis in syphilitic subjects is estimated by Heller at from 1:9 to 1:7. About one half of these patients die from it, but only 1.9 per cent die under 50.

Incontinence of Urine in Women.—In these cases Casper occasionally had success with very hot sitz-baths containing a few pounds of salt and combined with vaginal douches. Otherwise, he is in favor of surgical diathermy of the urethra, which is followed by a contraction of the surrounding tissue.

Atypical Anginas.—A case of agranulocytosis with recovery is reported by Schultz. The tonsillitis appeared late—which speaks for the theory that the tonsil is only a point of localization of the disease, not the portal of entrance. He found a lowered resistance of leukocytes against solutions of sodium carbonate in this patient, as well as in patients with other conditions associated with leukopenia, such as typhoid.

Streptococcus Serum in Grave Diphtheria.—Finkelstein and Koenigsberger recommend injections of streptococcus antitoxin besides diphtheria antitoxin in cases of grave diphtheria.

Deutsche Zeitschrift für Chirurgie, Leipzig

201: 289-424 (April) 1927

"Colloidal" Solutions of Saccharated Iron in Surgery. R. Kraft.—p. 289.
Immature Thyroid and Goiter in Steiermark. V. Orator and E. Walchshofer.—p. 301.
Tumors of Vessels. L. A. Andrejew.—p. 320.
Treatment of Tetanus. M. Tschebull.—p. 332.
New Positive Pressure Apparatus. W. Jehn and A. Brunner.—p. 344.
Local Anesthesia in Radical Breast Amputation. L. A. Andrejew.—p. 349.
Osteitis Fibrosa and Sarcoma. R. Wanke.—p. 358.
*Injuries to Articular Cartilage from Excessive Pressure. H. Koch.—p. 367.
Serous Tendovaginitis. A. J. Obolenskaja and J. A. Goljanitzki.—p. 388.
Rupture of Tendons of Thumb. W. F. Suermondt.—p. 400.
*Exophthalmic Goiter and Diabetes. V. Orator.—p. 402.
Trachea After Operation for Goiter. T. Perras.—p. 406.
Xanthoma of Unusual Site and Size. K. Hutter.—p. 416.

Effect of Excessive Pressure on Articular Cartilage.—In animal experiments, Koch found that when the articular cartilage of the lower end of the humerus was pressed against the articular cartilages of the radium and ulna, surface to surface, they could withstand very hard pressure for from eighteen days to six weeks without appreciable injury. There was proliferation of connective tissue, originating in the synovial membrane and partially covering the free cartilage

surfaces, which might be an obstacle in the later use of the joint. In further experiments, the joint surfaces were pulled apart and kept separated. After a few weeks the joint was obliterated by connective tissue. The articular space had disappeared. The articular cartilage, however, had suffered scarcely any injury. The results were different with sharply circumscribed pressure, for instance, when traction, exerted on the olecranon brought the head of the radius, like a wedge, to press against the articular surface of the humerus. Necrosis of the cartilage set in rapidly. Koch concludes that in wire or nail extension it is far better to apply the extension to the distal end of the fractured bone rather than to the bone on the other side of the intervening joint. It is important to move the joint frequently and bring it into different positions to prevent overgrowth of the articular surfaces by connective tissue. Signs of arthritis deformans were not seen in any of the experiments.

Exophthalmic Goiter and Diabetes.—A case is described by Orator in which a man, who had transient glycosuria for years, was given sajodin for atherosclerosis. Thereupon there developed on the basis of a symptomless goiter a typical exophthalmic goiter. Glycosuria and traces of acetone appeared in the urine. The glycosuria proved refractory to insulin. Extensive resection of the goiter was undertaken, and the symptoms of exophthalmic goiter and diabetes disappeared. Orator regards the diabetes in this case as being thyrogenous and thinks that the case may throw light on refractoriness to insulin.

Klinische Wochenschrift, Berlin

6: 1313-1360 (July 9) 1927

Nutrition of the Child. E. Müller.—p. 1313.
*Compensation in So-Called Traumatic Neuroses. H. Kleist.—p. 1317.
*Hormones and Narcotics. H. Zondek and H. W. Bansi.—p. 1319.
*Ovum and Hormone. B. Zondek and S. Aschheim.—p. 1321.
*Hormones of the Anterior Lobe of the Pituitary and of the Ovary in Urine. S. Aschheim and B. Zondek.—p. 1322.
*Disturbance of Blood Clotting in Hepatic Disease. E. Hartmann. —p. 1322.
*Resynthesis of Lactic Acid in Diseases of the Circulation. H. Perger. —p. 1324.
The Heart and Capillaries in Mongolism and Myxedema. L. Doxiades and C. Pototzky.—p. 1326.
Potassium and Calcium Content of Whole Blood. L. Kauftheil and F. Kisch.—p. 1328.
Cardiovascular Disturbances and Uremia in Diabetic Coma. L. Dinkin. —p. 1330.
Mechanism of Action of Protein Treatment. S. Rusznyák and A. Korányi.—p. 1332.
Hemochromatosis. P. Görl.—p. 1334.
Lasègue's Phenomenon. F. Lindstedt.—p. 1336.
Intermittent Claudication. W. Fornet.—p. 1337.
Cultivation of Pure Strains of Cancer Cells. A. Fischer.—p. 1337.
Potassium and the Parasympathetic. L. Jendrassik and L. Antal. —p. 1338.
Fatal Hypoglycemia. W. W. Winogradow and S. J. Steinberg.—p. 1338.
*Insulin Treatment of Pregnancy Toxicoses. E. Vogt.—p. 1339.
Social Insurance and Geneva. K. Finkenrath.—p. 1344.
Estimation of Acetone in Urine. M. Rudoy.—p. 1359.

Compensation in So-Called Traumatic Neuroses.—Since "traumatic" neurosis is not due to the injury, but only to the fact that the subject is entitled to compensation, Kleist suggests that the German compensation law should be amended. Private insurance companies are already incorporating a clause excluding compensation in cases of nervous disturbances which are not due to an organic injury of the nervous system. Refusal of an annuity is the best method of prevention and cure of neurosis after injury.

Hormones and Narcotics.—H. Zondek and Bansi found that various narcotics—alcohols as well as morphine—prevent adsorption of epinephrine by charcoal. They also found that a similar protection of the cells of the organism against hormones occurs in vivo. This may explain the favorable action of chloral hydrate in exophthalmic goiter. They believe that vagotonic conditions of cell fatigue are associated with an inhibited adsorption of hormones, sympathicotonic conditions with the opposite. The inhibition of the action of hormones may be essential, according to these authors, for sleep induced by narcotics and perhaps even for normal sleep.

Ovum and Hormone.—B. Zondek and Aschheim found normal estrus in mice after destroying ovulation by roentgen rays. Consequently, the ovum is not responsible for the production of the ovarian hormone. Injection of the latter into a young mouse induces estrus, but does not mature the follicle. Consequently, the ovarian hormone does not influence the ovulation. If the production of the hormone is inhibited by administration of thallium, the follicles develop to a considerable extent. If such an animal is injected with an extract from the anterior lobe of the pituitary, the estrus appears within one hundred hours. They conclude that both the ovum and ovarian hormone are dominated by the hormone of the anterior lobe of the pituitary.

Hormones of the Anterior Lobe of Pituitary and of the Ovary in Urine.—In parturient women, Aschheim and B. Zondek found one mouse unit (or more) of ovarian hormone per cubic centimeter of urine. It appears in the urine in the fifth month of pregnancy in amounts sufficient to be demonstrated by direct injection of the urine into a mouse. The hormone of the anterior lobe of the pituitary appears in the urine in the second month of pregnancy (thirty-five days after the last menstruation). Early diagnosis of pregnancy based on this observation might be possible.

Disturbance of Blood Clotting Due to Hepatic Disease.—From his experiments Hartmann concludes that the prolongation of the blood clotting time in grave diseases of the liver is due to the presence of an abnormal amount of stabilizing substances in the blood. These substances inhibit the activation of the proserozyme. They may be identical with Howell's heparin.

Resynthesis of Lactic Acid in Diseases of the Circulation.—Perger injected 200 cc. of a 2 per cent solution of sodium lactate intravenously. In healthy subjects the lactic acid concentration of the blood increased very little and the previous level was reached within a few minutes. The lactic acid concentration increased up to threefold in patients with decompensated heart and remained high for as long as twenty minutes or more. He attributes this phenomenon to disturbance of resynthesis of lactic acid by the muscles.

Insulin Treatment of Pregnancy Toxicoses.—Vogt regards the injection of insulin plus dextrose as an etiologic treatment of all toxicoses of pregnancy, including eclampsia. He gave from 5 to 50 units daily, combined with an enema of from 0.5 to 1 liter of a 3 to 5 per cent solution of dextrose.

Medizinische Klinik, Berlin

23: 1009-1048 (July 8) 1927

Typhoid Epidemic in Hanover. M. Hahn.—p. 1009.
Idem: Jürgens.—p. 1012. C'td.
*"Synthalin" Treatment. J. Jacobi and K. Brüll.—p. 1017.
Extrapleural Thoracoplasty. K. Henius and E. Gohrbandt.—p. 1020.
Idem: E. Gohrbandt.—p. 1022.
Spontaneous Recovery from Otogenic Sinus Thrombosis. G. Charousek. —p. 1023.
*"Occult Melena"? I. Boas.—p. 1023.
Leukocytes in Pernicious Anemia. Arneth.—p. 1024.
Hormonal Sterilization of Females with Insulin. L. Haberlandt.—p. 1024.
Gastritis and Duodenitis in Pathogenesis of Ulcer. G. E. Konjetzny and H. Puhl.—p. 1025.
A Self-Retaining Vaginal Speculum. E. Guttmann.—p. 1029.
A New Knee Joint for Femoral Prostheses. Dieterich.—p. 1031.
Isacen in Postoperative Atony. E. Hasler.—p. 1031.
Tuberculosis Due to Occupational Injury. Von Schnizer.—p. 1033.
Gynecology and Constitution. R. Katz.—p. 1034.

Synthalin Treatment.—Jacobi and Brüll had good results in about two-thirds of their patients, including children.

Occult Melena?—Boas criticizes this term, recently used. Melena signifies visible admixture of blood to the feces. Occult bleeding is a better designation.

Monatsschrift für Geb. und Gynäkologie, Berlin

76: 91-164 (April) 1927

*Hemagglutination. E. Klaften.—p. 91.
Is Loss of Weight at End of Pregnancy a Sign of Approaching Delivery? H. Biehle.—p. 107.
Asthmopathia Gravidarum: Rare Pregnancy Toxicosis. G. H. Schneider. —p. 115.
Treatment of Vaginal Occlusion. W. Odenthal.—p. 122.
Operation for Myoma. H. Hinterstoisser.—p. 130.

Hemagglutination.—Klaften found that the constancy of the blood in relation to grouping was not altered by medicines,

pregnancy or labor, syphilis, or ether anesthesia. The retroplacental blood belonged to the same group as the venous blood. From examinations of the weight of new-born infants and comparisons of the blood of mother and child, he received the impression that the conditions of fetal development are better when the blood of mother and child belong to the same group. In the four pairs of univitelline twins examined, each child beonged to the same blood group as its twin. In six pairs of twins from two ova, both children belonged to the same blood group in three pairs; in two of these the placentas were entirely separate. Klaften's investigations fully confirmed the rules established by Latte and by Schiff for the use of blood grouping in relation to the question of paternity. A small series of examinations into the possible connection between homospecific or heterospecific pregnancy and eclampsia were made, but were inconclusive.

Münchener medizinische Wochenschrift, Munich

74: 1083-1122 (July 1) 1927

Synthetic Ephedrine. W. Berger and H. Ebster.—p. 1083.
*Biologic Treatment of Cancer. A. Theilhaber.—p. 1087.
Degkwitz's Measles Serum. O. H. Spreitzer.—p. 1089.
*Ether Treatment of Perforative Peritonitis. A. Schleussner.—p. 1091.
Treatment of Warts by Suggestion. L. Grumach.—p. 1093.
*Convalescent's Serum in Treatment of Pneumonia and Influenza. R. Korbsch.—p. 1094.
Treatment of Muscular "Rheumatism" with the Patient's Lymph. A. Petoe.—p. 1095.
Recurrence of Hernia After Surgical Treatment. Mühlbauer.—p. 1095.
Subcutaneous Dislocation of the Talus. F. Pekarek.—p. 1095.
Lordosis from Faulty Posture. O. Kolb.—p. 1097.
Treatment of Mobile Deformities of the Spine. F. Vischer.—p. 1098.
Wire Extension. H. Schmidt.—p. 1099.
Torsion of Stem of Gallbladder. J. P. zum Busch.—p. 1099.
Jessen's Method of Staining Tubercle Bacilli. O. Gandenberger.—p. 1099.
A Physician's Thoughts on Medicine. A. Bier.—p. 1100. C'tn.
Russian Social Insurance. A. Dworetzky.—p. 1105. C'td.

Biologic Treatment of Cancer.—Theilhaber believes that he observed some improvement in cancer patients after implantation of the thymus and spleen of rabbits or calves.

Ether Treatment of Perforative Peritonitis.—With ether Schleussner had a mortality of only 11.2 per cent, as against 24.2 per cent before he began using it.

Convalescent's Serum in Treatment of Pneumonia and Influenza.—Korbsch injected 130 cc. of mixed convalescent's serum in a pregnant woman with massive infiltration of the entire lower lobe of the left lung. She recovered. Camphor oil and digitalis were also used in her, and in other patients.

Wiener klinische Wochenschrift, Vienna

40: 869-900 (July 7) 1927

Roentgenology of the Gallbladder. J. Palugyay.—p. 869.
Surgery of Abdominal Fat. J. Frist.—p. 873.
Tuberculin Diagnosis in Children. F. Hamburger.—p. 875.
Polypi of the Rectum. J. G. Knoflach.—p. 876.
Diagnosis of Recent Inflammation from Urinary Sediment. E. Preissecker.—p. 877.
Purulent Mastitis Due to Pneumobacilli. E. Domanig.—p. 877.
*Ascarid in a Fallopian Tube. H. Hofstötter.—p. 878.
*Resorption of Iodine. J. F. Crippa.—p. 879.
Balneotherapy of Diseases of Bones and Muscles. A. Simó.—p. 880.
Hydrocyanic Acid in Destruction of Vermin. M. Kaiser.—p. 882.
Oxytoxic Drugs. E. Graff.—p. 886.
Treatment of Fractures. B. Pfab.—p. 888.
Genotype and Phenotype. J. Bauer. Supplement.—pp. 1-8.

Ascarid in a Fallopian Tube.—Hofstötter's patient, who was pregnant, died from purulent peritonitis apparently due to a perforation of the bowel by an ascarid, although such perforation was not seen at necropsy. The parasite was found in the left tube.

Resorption of Iodine.—With the usual method, Crippa demonstrated iodine in the urine of patients who bathed in mineral water containing iodides.

40: 901-932 (July 14) 1927

Lesions of Semilunar Cartilage. F. Demmer.—p. 901. C'td.
*Extra-Uterine Pregnancy Versus Appendicitis and Cholecystitis. I. Eisenklam.—p. 905.
Internal Treatment of Syphilis. G. Scherber.—p. 909.
Complement Fixation in Tuberculosis. R. Meller.—p. 913.
Plastic Surgery of Nose. E. Eitner.—p. 916.
Strangulation Ileus. J. Deutsch.—p. 916.
Peculiar Case of "Tonsillitis." M. Tabak.—p. 918.
Pains in Cardiac Region. L. Braun.—p. 919.
Conservatism in Otology. G. Bondy. Supplement.—pp. 1-11.

Extra-Uterine Pregnancy Versus Appendicitis and Cholecystitis.—Ninety-three cases of ruptured extra-uterine pregnancy are analyzed by Eisenklam. Only nine of them had been diagnosed correctly, one by the patient herself, who had suffered a similar accident before. The rupture was complicated by acute appendicitis in three cases. Cholecystitis was assumed several times because of jaundice.

Zentralblatt für Chirurgie, Leipzig

54: 1217-1280 (May 14) 1927

*Malaria and Blood Transfusion. I. Korabelnikoff.—p. 1218.
Removal of Pancreatic Stone. O. Orth.—p. 1220.
Constipation of Gastric Origin in Peptic Ulcer. A. Frenkel.—p. 1223.
Surgical Treatment of Gonorrheal Funiculitis. G. M. Gurewitsch.—p. 1225.
Treatment of Vesical Fistula. V. Ghiron.—p. 1229.
New Scissors for Plaster Dressings. H. von Baeyer.—p. 1231.
Injuries to the Acromion. F. Duncker.—p. 1233.

Transmission of Malaria by Blood Transfusion.—In the case here reported, a woman, who had never had malaria, received blood from two donors on two occasions twenty days apart. On the eleventh day after the second transfusion, malaria developed. The donor in this transfusion had denied any illnesses, but on being repeatedly questioned later recalled that he had suffered from a fever (from his description, malaria) a year before. Examination of his blood was negative.

54: 1281-1344 (May 21) 1927

*Herniotomy and Appendectomy. K. Mermingas.—p. 1282.
High Leukocyte Counts in Surgical Diseases During Influenza Epidemic. S. Ruf.—p. 1286.
Pathology of Hydatid Cyst of the Lungs. L. P. Mariantschik.—p. 1286.
Plastic Repair of Defects After Breast Amputation. A. Gruca.—p. 1293.
Ovarian Hemorrhage Mistaken for Appendicitis. O. Thomann.—p. 1297.
Plastic Material for Operations for Inguinal Hernia. B. Ulrichs.—p. 1298.

Herniotomy and Appendectomy.—Mermingas believes in appendectomy as a routine accompaniment of herniotomy on the right side, when it can be done without difficulty. With the supra-inguinal method, which he prefers for oblique inguinal hernia, it is particularly easy. In his last thirty-five cases, he found only three healthy appendixes. In appendectomies in the interval, he takes occasion to examine and treat prophylactically, if called for, the internal inguinal ring. In seventy of his last eighty-two cases, he found a connective tissue cord (a remnant of the obliterated processus vaginalis) alongside the spermatic cord or the ligamentum teres, in two others a small sac had already formed.

Zentrablatt für Gynäkologie, Leipzig

51: 1289-1352 (May 21) 1927

*Artificial Vagina and Childbirth. G. A. Wagner.—p. 1300.
Hermaphroditismus Verus. G. A. Wagner.—p. 1304.
Multiple Lymphocytomas of the Uterine Mucosa. L. Fraenkel.—p. 1313.
*Tuberculosis of the Uterus in Older Women. P. M. Deymel.—p. 1314.
Melanosarcoma. G. Gatter.—p. 1318.
*Operation or Irradiation in Myoma. G. Schubert.—p. 1322.
*Idem. W. Hannes.—p. 1325.
Operative Widening of the Pelvis. G. Hoppe.—p. 1329.
Genital Injuries sub Coitu. G. Bakscht.—p. 1333.

Artificial Vagina and Childbirth.—Schubert's method of forming an artificial vagina from the rectum has been used successfully by Wagner in seven cases. One of these patients has since been delivered of three living children through the artificial vagina. Forceps were used in the first birth, the other two were wholly spontaneous. The latest child weighed 4,500 Gm.

Tuberculosis of the Uterus in Older Women.—Deymel reports two cases in women, 59 and 69 years old, respectively. In the first case, the disease appears to have been present since the patient was 20 years old. She had been pregnant thirteen times and borne eleven living children, seven of whom died of intestinal or pulmonary diseases. She complained of irregular bleeding, extending over four years. In her fortieth year she had had a similar period of bleeding. The menopause had taken place at the age of 46. Vaginal hysterectomy was performed. The tubes and ovaries, inspected

at the operation, appeared uninvolved in the tuberculous endometritis. Prolapse brought the second patient to the clinic. She had had three children; two died of tetany in infancy. Thirty-two years before she had been operated on for tuberculosis of the intestines and peritoneum. Vaginal hysterectomy was done in this case also. The uterine infection was limited to the portio, an extremely rare circumstance.

Operation or Irradiation of Uterine Myoma. — Schubert recommends irradiation only when operation is absolutely contraindicated. In one hundred operations for myoma, he found malignancy five times. He believes that a connection between myoma and carcinoma is certain, and cites cases to show that the occurrence of carcinoma of the body of the uterus is not rare after irradiation. Hannes holds that irradiation for myoma is indicated only when one can feel absolutely sure that the myoma is uncomplicated. "If in doubt, operate."

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

71: 2675-2822 (May 14) 1927

Tuberculosis of the Larynx in Java. H. Müller and W. F. J. van Waveren.—p. 2676.
*Disturbances After Prostatectomy. P. R. Michaël.—p. 2683.
Existence of Color Perception in Fishes. G. F. Rochat.—p. 2690.
Complete Homonymous Hemianopia from Lesion of the Optic Path. H. J. M. Weve.—p. 2695.
Myxedema. W. A. Weisfelt.—p. 2715.
Epidemic Cerebrospinal Meningitis. A. C. Ruys.—p. 2717.

Disturbances After Prostatectomy.—Michaël describes four cases in which either immediately or several months after removal of the prostate by the transvesical route there was a return of difficulty in urinating. In two cases vesical calculi were found. He further describes, with illustrations, two bladders obtained at necropsy from three weeks to twelve years after prostatectomy. Narrowing of the passage where the bladder and the bed of the prostate meet is a frequent cause of the symptoms in such cases. In one of his patients the narrowing was caused by a flap of mucous membrane, which acted as a valve; in another a wide and tough diaphragm had formed, from what cause is not clear. He suggests that the stone formation may be secondary to the urinary disturbances, instead of their cause. Two of his patients were treated by surgery, in the other two the symptoms yielded to treatment with sounds and irrigations.

71: 2823-2938 (May 21) 1927

Quantitative Determination of Small Quantities of Glucose. M. J. Schulte.—p. 2824.
*The Blood Sugar and the Mechanism of Diabetes. B. Sybrandy.—p. 2827.
*Microcephalia and Bolk's "Retardation Theory." H. C. Jelgersma.—p. 2843.
*Treatment of Pachymeningitis Cervicalis Hypertrophica. H. C. Rümke and J. Goudsmit.—p. 2854.
Intravenous Injection of Solution of Pituitary in Postpartum Hemorrhage. W. M. J. Schellekens.—p. 2861.
Idem. W. M. J. Schellekens.—p. 2864.

The Blood Sugar and the Mechanism of Diabetes. — Sybrandy maintains that the chief action of the pancreatic hormone is synthesis of carbohydrate, which takes place mainly in the muscles. It has also an oxidative action, by which the ketones are burned, but with the burning of carbohydrates, as such, it has nothing to do. Disturbance of glycometastasis (the passage of sugar from the arteries into the muscles) is the cause of diabetes. Ingestion of large amounts of carbohydrate cannot cause hyperglycemia of importance and consequent glycosuria, if glycometastasis is working perfectly. In diabetes the muscles take up sugar only when there is rapid increase in the blood sugar.

Microcephalia and Bolk's "Retardation Theory."—Jelgersma notes a number of anatomic peculiarities of microcephalic idiots (tendency to prognathism, elevated position of the eye sockets, early ossification of the cranial sutures and of the epiphyseal lines, flat sacrum and various peculiarities of the brain), which, according to Bolk's "retardation theory," would indicate that this form of idiot represents the result, not of inhibited, but of too rapid development. Comparatively unchecked by the retarding influences that, according to Bolk, are normally biologic in man, and that have determined the final form attained by man, he appears to have gone on to a final form unattained by man and nearer that of the apes and certain other animals.

Hypertrophic Cervical Pachymeningitis. — In the case reported by Rümke and Goudsmit, a patient with hypertrophic cervical pachymeningitis, apparently of tuberculous origin, was cured by removal of a portion of the thickened dura. The cure is of one year's duration. This makes it improbable that the disease was secondary to any process in the cord or surrounding structures. Roentgen-ray examination with iodized oil proved of much value in making the diagnosis. The roentgenogram is reproduced.

Finska Läkaresällskapets Handlingar, Helsingfors

69: 465-561 (June) 1927

*Cholecystography. L. J. Lindström.—p. 465.
*Roentgen Irradiation and Cell Protoplasm. G. Jansson.—p. 490.
*Prognosis and Treatment in Certain Forms of Nervous Syphilis. J. Hagelstam.—p. 509.

Cholecystography.—Lindström used Graham's method thirty times in twenty-six cases, twenty times by the mouth and ten times intravenously. In sixteen cases operation verified the roentgen-ray indication, in fifteen absolutely. Cholecystography, he says, is primarily a function test and gives positive results in normal cases. Changes in position and form of the gallbladder and faint pictures call for careful interpretation. Negative results are helpful in diagnosis. While cholecystography aids in determining the presence of stones, negative results do not necessarily mean that they are absent. He recommends the oral method with intravenous introduction of the dye in addition in doubtful cases.

Roentgen Irradiation and Cell Protoplasm.—Jansson's investigations in five cases of myeloid leukemia showed a fundamental qualitative difference between the reaction of the myeloid cells and of the neutrophil leukocytes: the plasma of the myeloid cells coagulates, while that of the mature cells softens. The sensitiveness to irradiation seems to depend on the plasma colloids.

Prognosis and Treatment in Certain Forms of Nervous Syphilis.—After discussing the modern therapy in tabes, with special reference to Dreyfus's method, Hagelstam reports on 183 cases of nervous syphilis and sixty-seven cases of tabes. He describes eight cases of atypical tabes and admits beneficial results from bismuth and neoarsphenamine treatment. Individualized antisyphilitic treatment is recommended, if the patient's means permit.

Hospitalstidende, Copenhagen

70: 479-506 (May 26) 1927

*Polarimetric Determination of Small Amounts of Glucose. C. Lundsgaard et al.—p. 479.
*Blocking Reflex of Finger. T. B. Wernøe.—p. 493.

Polarimetric Determination of Small Amounts of Glucose.—Lundsgaard, Gram, Holbøll and Rud reject previously published results on the reduction and rotation values of liquids containing glucose. In polarimetry of solutions of higher concentrations of glucose, they found that the difference between reduction and rotation values generally far exceeds the error which may appear, but examination of a low concentration of glucose, especially under 1 per cent, shows a difference between the reduction and rotation values which often lies within the field of error, especially as the error in the polarimetric determination of different biologic fluids in any case cannot be less than the error which appears in the measurement of fluid glucose solutions of corresponding concentration. Subjectively also, they say, the expectation of a definite concentration in the fluids to be tested may affect the result unless special precautions are taken.

Blocking Reflex of Finger.—Wernøe's experiments with Babinski's phenomenon to determine whether the blocking might be, in part, spinal in nature, indicate that the reflex is cerebral and probably cortical. He concludes that the blocking reflex starts in the sensory tracts of the joint, and thinks it is sent, partly through crossed anterior tracts, partly through posterior tracts, to the cerebral cortex, where it causes blocking of motor neurons. Tests by finger compression were made in patients with various forms of tremor; the tremors which could be completely stopped he views as of cortical origin. Diagnostically, the reflex seems adaptable for determination of the different kinds of tremor.

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